PB91-179697

Feasibility of Environmental Monitoring and Exposure Assessment for a Municipal Waste Combustor Rutland, Vermont Pilot Study. Appendices

(U.S.) Environmental Protection Agency, Cincinnati, OH

Jan 91

U.S. Department of Commerce
National Technical Information Service
NTIS

PB91-179697

EPA/600/8-91/007a
January 1991

Feasibility of Environmental Monitoring and Exposure Assessment for a Municipal Waste Combustor: Rutland, Vermont Pilot Study
APPENDICES

Environmental Criteria and Assessment Office
Office of Health and Environmental Assessment
Office of Research and Development
U.S. Environmental Protection Agency
Cincinnati, OH 45268

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NATIONAL TECHNICAL
INFORMATION SERVICE
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SPRINGFIELD, VA. 22161

TECHNICAL REPORT DATA

(Please read Instructions on the reverse before complet

1. REPORT NO.
EPA/600/8-91/007a

2.

3.
PB91-179697

4. TITLE AND SUBTITLE
Feasibility of Environmental Monitoring and Exposure Assessment for a Municipal Waste Combustor: Rutland, Vermont Pilot Study - APPENDICES

5. REPORT DATE
January 1991

6. PERFORMING ORGANIZATION CODE

7. AUTHOR(S)

8. PERFORMING ORGANIZATION REPORT NO.

9. PERFORMING ORGANIZATION NAME AND ADDRESS

10. PROGRAM ELEMENT NO.

11. CONTRACT/GRANT NO.

12. SPONSORING AGENCY NAME AND ADDRESS
Environmental Criteria and Assessment Office
Office of Research and Development
U.S. Environmental Protection Agency
Cincinnati, OH 45268

13. TYPE OF REPORT AND PERIOD COVERED

14. SPONSORING AGENCY CODE
EPA/600/22

15. SUPPLEMENTARY NOTES

These Appendices support the final report EPA/600/8-91/007

16. ABSTRACT

In response to a Congressional mandate, a study was undertaken by the Office of Research and Development to monitor several metal and organic pollutants in air and other environmental media near the Rutland, Vermont Municipal Waste Combustor (MWC) facility and to estimate the magnitude of any increases in health risk. As data became available, it became apparent that there was no obvious relationship between the operation of the MWC and ambient air pollution levels. Therefore, the focus of the study shifted from one of health risk assessment to one of more sophisticated statistical analysis to determine whether any influence of the MWC was detectable.

The final report (EPA/600/8-91/007) was intended as a summary of the study undertaken in Rutland, Vermont and some practical applications of the feasibility of conducting environmental monitoring and exposure assessment of such facilities. These Appendices support the final report by providing the monitoring data and analyses used in the report.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group

18. DISTRIBUTION STATEMENT
Public

19. SECURITY CLASS *(This Report)*
Unclassified

20. SECURITY CLASS *(This page)*
Unclassified

21. NO. OF PAGES
492

22. PRICE

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PREFACE

In response to a Congressional mandate, a study was undertaken by the Office of Research and Development to monitor several metal and organic pollutants in air and other environmental media near the Rutland, Vermont Municipal Waste Combustor (MWC) facility and to estimate the magnitude of any increases in health risk. As data became available, it became apparent that there was no obvious relationship between the operation of the MWC and ambient air pollution levels. Therefore, the focus of the study shifted from one of health risk assessment to one of more sophisticated statistical analysis to determine whether any influence of the MWC was detectable.

The final report (EPA/600/8-91/007) was intended as a summary of the study undertaken in Rutland, Vermont and some practical applications of the feasibility of conducting environmental monitoring and exposure assessment of such facilities. These Appendices support the final report by providing the monitoring data and analyses used in the report.

The study was undertaken under the Cooperative Agreement No. CX184651-01 with the State of Vermont. For more information, please contact Cynthia Sonich-Mullin, Environmental Criteria and Assessment Office, U.S. EPA, Cincinnati, Ohio 45268.

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APPENDIX A

Concentration of Pollutants in Ambient Air
(μg/m^3)[a]

Pollutant	Sample Date	SLAMS	Watkins	River St.	Route 4
		Monitoring Site			
Arsenic	11/05/87	≤0.0047[bc]	≤0.0047	≤0.0047	NA
	11/17/87	NA	≤0.0047	≤0.0047	≤0.0047
	11/29/87	≤0.0047[b]	≤0.0047	≤0.0047	≤0.0047
	12/11/87	≤0.0047	≤0.0047	≤0.0047	≤0.0047
	12/23/87	≤0.0047	≤0.0047	≤0.0047	≤0.0047
	01/04/88	≤0.0047	0.0069	≤0.0046	≤0.0046
	01/16/88	≤0.0046[b]	≤0.0046	≤0.0046	≤0.0046
	01/28/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	02/09/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	02/21/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	03/04/88	≤0.0046	≤0.0046	≤0.0046	0.0080
	03/16/88	≤0.0046	0.0061	≤0.0046	≤0.0046
	03/28/88	≤0.0046	0.0072	≤0.0046	NA
	04/09/88	≤0.0046	≤0.0046	≤0.0046	0.0064
	04/21/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	05/03/88	≤0.0046	NA	≤0.0046	≤0.0046
	05/27/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	06/08/88	≤0.0046	≤0.0046	≤0.0046	NA
	06/20/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	07/14/88	≤0.0046	0.0068	≤0.0046	≤0.0046
	07/26/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	08/07/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	08/19/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	08/31/88	0.0064	≤0.0046	≤0.0046	NA
	09/24/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046
	10/06/88	≤0.0046	≤0.0046	≤0.0046	≤0.0046

		Monitoring Site			
Pollutant	Sample Date	SLAMS	Watkins	River St.	Route 4
Beryllium	11/05/87	≤0.2443[bc]	≤0.2443	≤0.2443	NA
	11/17/87	NA	≤0.2443	≤0.2443	≤0.2443
	11/29/87	≤0.2443[b]	≤0.2443	≤0.2443	0.4
	12/11/87	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	12/23/87	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	01/04/88	≤0.2443[b]	≤0.2443	≤0.2443	≤0.2443
	01/16/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	01/28/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	02/09/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	02/21/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	03/04/88	≤0.2443	0.4618	≤0.2443	≤0.2443
	03/16/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	03/28/88	≤0.2443	≤0.2443	≤0.2443	NA
	04/09/88	≤0.2443	≤0.2443	0.3361	≤0.2443
	04/21/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	05/03/88	≤0.2443	NA	≤0.2443	≤0.2443
	05/27/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	06/08/88	≤0.2443	≤0.2443	≤0.2443	NA
	06/20/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	07/14/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	07/26/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	08/07/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	08/19/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	08/31/88	≤0.2443	≤0.2443	≤0.2443	NA
	09/24/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	10/06/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	10/18/88	≤0.2443	≤0.2443	0.4259	≤0.2443
	10/30/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	11/11/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	11/23/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	12/05/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443
	12/17/88	≤0.2443	≤0.2443	≤0.2443	≤0.2443

		Monitoring Site			
Pollutant	Sample Date	SLAMS	Watkins	River St.	Route 4
Cadmium	11/05/87	≤0.0009[bc]	≤0.0009	≤0.0009	NA
	11/17/87	NA	≤0.0009	≤0.0009	≤0.0009
	11/29/87	≤0.0009[b]	≤0.0009	≤0.0009	0.0013
	12/11/87	≤0.0009	≤0.0009	≤0.0009	≤0.0009
	12/23/87	≤0.0009	≤0.0009	≤0.0009	≤0.0009
	01/04/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	01/16/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	01/28/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	02/09/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	02/21/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	03/04/88	≤0.0014	0.0022	≤0.0014	≤0.0014
	03/16/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	03/28/88	≤0.0014	≤0.0014	≤0.0014	NA
	04/09/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	04/21/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	05/03/88	≤0.0014	NA	≤0.0014	≤0.0014
	05/27/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	06/08/88	≤0.0014	≤0.0014	≤0.0014	NA
	06/20/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	07/14/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	07/26/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	08/07/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	08/19/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	08/31/88	≤0.0014	≤0.0014	≤0.0014	NA
	09/24/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	10/06/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	10/18/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	10/30/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	11/11/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	11/23/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	12/05/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014
	12/17/88	≤0.0014	≤0.0014	≤0.0014	≤0.0014

Pollutant	Sample Date	Monitoring Site SLAMS	 Watkins	 River St.	 Route 4
Chromium	11/05/87	≤0.0069[bc]	≤0.0069	≤0.0069	NA
	11/17/87	NA	≤0.0069	≤0.0069	≤0.0069
	11/29/87	≤0.0069[b]	≤0.0069	≤0.0069	≤0.0069
	12/11/87	≤0.0069	≤0.0069	≤0.0069	≤0.0069
	12/23/87	≤0.0069	≤0.0069	≤0.0069	≤0.0069
	01/04/88	≤0.0065[b]	≤0.0065	≤0.0065	≤0.0065
	01/16/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	01/28/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	02/09/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	02/21/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	03/04/88	≤0.0065	≤0.0065	≤0.0113	≤0.0065
	03/16/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	03/28/88	≤0.0065	≤0.0065	≤0.0065	NA
	04/09/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	04/21/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	05/03/88	≤0.0065	NA	≤0.0065	≤0.0065
	05/27/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	06/08/88	≤0.0065	≤0.0065	≤0.0065	NA
	06/20/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	07/14/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	07/26/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	08/07/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	08/19/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	08/31/88	≤0.0065	≤0.0065	≤0.0065	NA
	09/24/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065
	10/06/88	≤0.0065	≤0.0065	≤0.0065	≤0.0065

Pollutant	Sample Date	Monitoring Site			
		SLAMS	Watkins	River St.	Route 4
Lead	11/05/87	0.0151[bc]	≤0.0061	≤0.0061	NA
	11/17/87	NA	0.0105	0.0234	0.0273
	11/29/87	0.0125[b]	0.0220	≤0.0061	0.0145
	12/11/87	0.0392	0.0249	0.0318	0.0284
	12/23/87	0.0621	0.0351	0.0377	0.0434
	01/04/88	0.0232[b]	0.0166	0.0160	0.0080
	01/16/88	0.0838	0.0529	0.0438	0.0450
	01/28/88	0.0520	0.0304	0.0213	0.0281
	02/09/88	0.0321	0.0228	0.0228	0.0237
	02/21/88	0.0084	≤0.0061	≤0.0061	≤0.0061
	03/04/88	0.0397	0.0428	0.0357	0.0433
	03/16/88	0.0119	≤0.0061	≤0.0061	0.0112
	03/28/88	0.0282	0.0099	0.0185	NA
	04/09/88	0.0195	0.0095	0.0199	0.0125
	04/21/88	0.0212	0.0083	0.0114	0.0150
	05/03/88	0.0147	NA	0.0132	0.0070
	05/27/88	0.0231	0.0336	0.0183	0.0181
	06/08/88	0.0110	0.0070	≤0.0061	NA
	06/20/88	0.0189	0.0223	0.0188	0.0153
	07/14/88	0.0152	0.0094	0.0098	0.0095
	07/26/88	0.0177	0.0155	0.0082	0.0138
	08/07/88	0.0111	0.0074	≤0.0061	0.0123
	08/19/88	0.0144	0.0107	0.0092	0.0124
	08/31/88	0.0958	≤0.0061	0.0102	NA
	09/24/88	0.0110	≤0.0061	0.0136	0.0085
	10/06/88	0.0162	0.0074	0.0124	0.0205
	10/18/88	0.0162	0.0091	0.0141	0.0097
	10/30/88	0.0138	0.0087	0.0072	0.0090
	11/11/88	0.0086	≤0.0061	0.0077	≤0.0061
	11/23/88	0.0324	0.0234	0.0402	0.0260
	12/05/88	0.0240	0.0151	0.0114	0.0130
	12/17/88	0.0228	0.0148	0.0176	0.0159

Pollutant	Sample Date	Monitoring Site SLAMS	 Watkins	 River St.	 Route 4
Nickel	11/05/87	≤0.0038[bc]	≤0.0038	≤0.0038	NA
	11/17/87	NA	≤0.0038	≤0.0038	≤0.0038
	11/29/87	≤0.0038[b]	≤0.0038	≤0.0038	≤0.0038
	12/11/87	≤0.0038	≤0.0038	≤0.0038	≤0.0038
	12/23/87	0.0096	≤0.0038	≤0.0038	≤0.0038
	01/04/88	≤0.0077[b]	≤0.0077	≤0.0077	≤0.0077
	01/16/88	0.0086	≤0.0089	≤0.0077	≤0.0077
	01/28/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	02/09/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	02/21/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	03/04/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	03/16/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	03/28/88	≤0.0077	≤0.0077	≤0.0077	NA
	04/09/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	04/21/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	05/03/88	≤0.0077	NA	≤0.0077	≤0.0077
	05/27/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	06/08/88	≤0.0077	≤0.0077	≤0.0077	NA
	06/20/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	07/14/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	07/26/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	08/07/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	08/19/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	08/31/88	≤0.0077	≤0.0077	≤0.0077	NA
	09/24/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	10/06/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	10/18/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	10/30/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	11/11/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	11/23/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	12/05/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077
	12/17/88	≤0.0077	≤0.0077	≤0.0077	≤0.0077

		Monitoring Site			
Pollutant	Sample Date	SLAMS	Watkins	River St.	Route 4
B(a)P	11/05/87	≤0.3348	≤0.3348	≤0.3348	NA
	11/17/87	NA	≤0.3348	0.4451	≤0.3348
	11/29/87	0.4838	≤0.3348	≤0.3348	≤0.3348
	12/11/87	1.9115	1.2050	0.4723	0.4392
	12/23/87	3.5685	1.3850	1.1430	1.1350
	01/04/88	≤0.3348[b]	≤0.3348	≤0.3348	≤0.3348
	01/16/88	6.2690	2.5930	1.3720	1.7770
	01/28/88	2.9700	1.9010	1.2380	1.5980
	02/09/88	1.6950	0.9893	0.6059	0.5522
	02/21/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	03/04/88	0.6169	≤0.3348	≤0.3348	≤0.3348
	03/16/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	03/28/88	0.5826	≤0.3348	≤0.3348	NA
	04/09/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	04/21/88	0.4012	≤0.3348	≤0.3348	≤0.3348
	05/03/88	≤0.3348	NR	<0.3348	≤0.3348
	05/27/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	06/08/88	≤0.3348	≤0.3348	≤0.3348	NA
	06/20/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	07/14/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	07/26/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	08/07/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	08/19/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	08/31/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	09/24/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	10/06/88	0.7202	≤0.3348	≤0.3348	≤0.3348
	10/18/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	10/30/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	11/11/88	≤0.3348	≤0.3348	≤0.3348	≤0.3348
	11/23/88	1.9505	0.9254	1.5420	1.0630
	12/05/88	1.9000	1.7690	0.9113	0.9200
	12/17/88	6.3910	2.4000	1.9630	1.7510
	02/03/89	1.8060	0.6711	≤0.3348	0.3755
	02/15/89	0.8437	0.4844	≤0.3348	≤0.3348

		Monitoring Site			
Pollutant	Sample Date	SLAMS	Watkins	River St.	Route 4
PCBs					
	11/05/87	≤0.81	≤0.82	≤0.81	≤0.86
	11/17/87	NA	≤0.81	≤0.80	0.80
	11/29/87	≤0.81	≤0.82	≤0.80	≤0.79
	12/11/87	≤0.80	≤0.80	≤0.79	≤0.81
	12/23/87	≤0.79	≤6.44	NA	0.78
	01/04/88	<0.73	≤0.86	≤0.75	≤0.73
	01/16/88	≤0.75	≤0.74	0.78	≤0.86
	01/28/88	NA	NA	≤0.86	≤0.86
	02/09/88	≤0.77	≤0.86	≤0.71	≤0.75
	02/21/88	≤0.77	≤0.86	≤0.71	≤0.75
	03/04/88	≤0.80[d]	≤0.80[d]	≤0.80[d]	≤0.80[d]
	03/16/88	≤0.80[d]	≤0.80[d]	≤0.80[d]	≤0.80[d]
	03/28/88	≤0.81	≤0.80	≤0.80	0.78
	04/09/88	≤0.81	≤0.81	≤0.79	0.78
	04/21/88	≤0.81	≤0.81	≤0.80	≤0.79
	05/03/88	≤0.84	≤0.82	≤0.81	≤0.80
	05/27/88	≤0.84	≤0.84	≤0.84	≤0.84
	06/08/88	≤0.85	≤0.86	≤0.84	≤0.82
	06/20/88	≤0.81	≤0.84	≤0.82	≤0.87
	07/14/88	≤0.82	≤0.82	≤0.84	≤0.82
	07/26/88	≤0.86	≤0.84	≤0.84	≤0.84
	08/07/88	≤0.87	≤0.86	0.85	≤0.84
	08/19/88	≤0.82	≤0.82	≤0.80	≤0.81
	08/31/88	0.85	≤0.82	1.13	≤0.79
	09/24/88	≤0.80[e]	≤0.80[e]	≤0.80[e]	≤0.80[e]
	10/06/88	≤0.80[e]	≤0.80[e]	≤0.80[e]	≤0.80[e]
	10/30/88	≤0.79	≤0.80	0.78	≤0.77
	11/23/88	0.78	≤0.79	≤0.77	≤0.76

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[a] Units for all pollutants except beryllium and B(a)P which use the units ng/m^3.

[b] Sample was not run in duplicate.

[c] The values reported by the laboratory were the detection limits.

[d] Values represents a mean of the detection limits for samples collected on 03/04/88 and 03/16/88.

[d] Value represents a mean of the detection limits for samples collected on 09/24/99 and 10/06/88.

NA = Not available

NR = Not received

Note: All field blanks measured 0.3 μg/cartridge
All values represent limits of detection

Source: EPA-ORD/OMMSQA

APPENDIX B

PCDD and PCDF Concentrations in Ambient Air and Quality Assurance Samples
in Rutland, Vermont
(pg/m^3)

	Monitoring Site						
	Rte. 4	Watkins	SLAMS	River St.	Watkins	River St.	Watkins
Sample Date --	11/05/87	11/05/87	11/05/87	11/05/87	11/05/87	11/17/87	11/17/87
2378-TCDD	ND(0.1)	ND(0.04)	ND(0.04)	ND(0.03)	ND(0.04)	ND(0.05)	ND(0.03)
Total TCDD	ND(0.1)	ND(0.1)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.05)	ND(0.03)
2378-PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]
Total PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]
2378-HxCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.03)[a]	ND(0.1)[a]	ND(0.1)[a]
Total HxCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.03)[a]	ND(0.1)[a]	ND(0.1)[a]
2378-HpCDD	0.2[a]	0.1[a]	0.2[a]	0.1[a]	0.1[a]	0.2[a]	0.2[a]
Total HpCDD	0.2[a]	0.1[a]	0.2[a]	0.1[a]	0.1[a]	0.2[a]	0.2[a]
OCDD	0.2	0.2	0.3	0.2	0.2	0.5	0.3
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
2378-PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.02)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.3)[a]
Total PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.02)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.3)[a]
2378-HxCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
Total HxCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
2378-HpCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
Total HpCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
OCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.2)	ND(0.1)

(PCDD and PCDF in Ambient Air)

	Monitoring Site						
	SLAMS	Rte. 4	Watkins	River St.	SLAMS	Watkins	Rte. 4
Sample Date --	11/17/87	11/17/87	11/17/87	11/29/87	11/29/87	11/29/87	11/29/87
2378-TCDD	ND(0.04)	ND(0.1)	ND(0.03)	ND(0.02)	ND(0.04)	ND(0.04)	ND(0.1)
Total TCDD	ND(0.04)	ND(0.1)	ND(0.1)	ND(0.04)	ND(0.1)	ND(0.1)	ND(0.1)
2378-PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]
Total PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]
2378-HxCDD	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.02)[a]	ND(0.1)[a]	ND(0.1)[a]
Total HxCDD	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.02)[a]	ND(0.1)[a]	ND(0.1)[a]
2378-HpCDD	ND(0.3)[a]	0.2[a]	0.2[a]	0.3[a]	0.3[a]	0.2[a]	0.2[a]
Total HpCDD	ND(0.3)[a]	0.2[a]	0.2[a]	0.3[a]	0.3[a]	0.2[a]	0.2[a]
OCDD	0.3	0.3	0.2	0.5	0.5	0.5	0.4
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
2378-PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.03)[a]	ND(0.1)[a]
Total PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.03)[a]	ND(0.1)[a]
2378-HxCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
Total HxCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
2378-HpCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.04)[a]	ND(0.1)[a]
Total HpCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.04)[a]	ND(0.1)[a]
OCDF	ND(0.3)	ND(0.2)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)

(PCDD and PCDF in Ambient Air)

	Monitoring Site						
	Watkins	River St.	Rte. 4	Watkins	Watkins	SLAMS	Watkins
Sample Date --	11/29/87	12/11/87	12/11/87	12/11/87	12/11/87	12/11/87	12/23/87
2378-TCDD	ND(0.03)	ND(0.1)	ND(0.05)	ND(0.03)	ND(0.05)	ND(0.1)	ND(0.1)
Total TCDD	ND(0.1)	ND(0.1)	ND(0.05)	ND(0.1)	ND(0.1)	0.4	ND(0.1)
2378-PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]
Total PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]
2378-HxCDD	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]
Total HxCDD	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]
2378-HpCDD	0.2[a]	0.6[a]	0.5[a]	0.4[a]	0.4[a]	0.4[a]	0.9[a]
Total HpCDD	0.2[a]	0.6[a]	0.5[a]	0.4[a]	0.4[a]	0.4[a]	0.9[a]
OCDD	0.3	0.8	0.6	0.6	0.6	0.5	1.3
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.2)
Total TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.3)	ND(0.8)	ND(0.2)
2378-PeCDF	ND(0.03)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.4)[a]	ND(0.1)[a]
Total PeCDF	ND(0.03)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.4)[a]	ND(0.1)[a]
2378-HxCDF	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.4)[a]	ND(0.1)[a]	0.8[a]	ND(0.2)[a]
Total HxCDF	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.4)[a]	ND(0.1)[a]	0.8[a]	ND(0.2)[a]
2378-HpCDF	ND(0.1)[a]	0.1[a]	0.2[a]	0.3[a]	0.2[a]	0.5[a]	0.2[a]
Total HpCDF	ND(0.1)[a]	0.1[a]	0.2[a]	0.3[a]	0.2[a]	0.5[a]	0.2[a]
OCDF	ND(0.1)	0.2	ND(0.2)	0.2	0.2	0.3	ND(0.2)

(PCDD and PCDF in Ambient Air)

	Monitoring Site						
	SLAMS	Watkins	Rte. 4	River St.	River St.	SLAMS	Rte. 4
Sample Date --	12/23/87	12/23/87	12/23/87	12/23/87	01/04/88	01/04/88	01/04/88
2378-TCDD	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.03)	ND(0.04)	ND(0.04)
Total TCDD	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
2378-PeCDD	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
Total PeCDD	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]
2378-HxCDD	ND(0.1)[b]	ND(0.1)[b]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)	ND(0.3)[a]	ND(0.1)[a]
Total HxCDD	0.7	0.5	ND(0.1)[a]	ND(0.1)[a]	0.2	ND(0.3)[a]	ND(0.1)[a]
2378-HpCDD	1.7[a]	0.8[a]	0.7[a]	0.7[a]	0.6[a]	0.4[a]	0.3[a]
Total HpCDD	1.7[a]	0.8[a]	0.7[a]	0.7[a]	0.6[a]	0.4[a]	0.3[a]
OCDD	2.1	1.0	1.0	1.7	0.9	0.9	0.5
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.1)
Total TCDF	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.3)	ND(0.2)	ND(0.2)
2378-PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(1.6)[a]	ND(0.1)[a]	ND(0.08)[a]
Total PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(1.6)[a]	ND(0.1)[a]	ND(0.08)[a]
2378-HxCDF	ND(0.2)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	0.3	ND(0.04)[a]	ND(0.1)[a]
Total HxCDF	ND(0.2)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]	1.4	ND(0.04)[a]	ND(0.1)[a]
2378-HpCDF	0.3[a]	0.2[a]	0.2[a]	0.2[a]	1.4[a]	0.1[a]	ND(0.2)[a]
Total HpCDF	0.3[a]	0.2[a]	0.2[a]	0.2[a]	1.4[a]	0.1[a]	ND(0.2)[a]
OCDF	0.4	0.3	ND(0.2)	ND(0.1)	0.7	ND(0.1)	ND(0.2)

(PCDD and PCDF in Ambient Air)

Monitoring Site

	Watkins	Watkins	River St.	Rte. 4	SLAMS^c	Watkins	Watkins
Sample Date --	01/04/88	01/04/88	01/16/88	01/16/88	01/16/88	01/16/88	01/16/88
2378-TCDD	ND(0.1)	ND(0.1)	ND(0.02)	ND(0.1)	ND(0.04)^a	ND(0.1)	ND(0.04)
Total TCDD	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.04)^a	0.5	0.5
2378-PeCDD	ND(0.1)^a	ND(0.1)^a	ND(0.1)^a	ND(0.1)^a	ND(0.1)^a	ND(0.3)	ND(0.7)
Total PeCDD	ND(0.1)^a	ND(0.1)^a	ND(0.1)^a	ND(0.1)^a	ND(0.1)^a	1.6	ND(0.9)
2378-HxCDD	ND(0.03)^a	ND(0.2)^a	0.3^a	ND(0.1)^a	0.2^a	ND(0.9)	ND(2.1)
Total HxCDD	ND(0.03)^a	ND(0.2)^a	0.3^a	ND(0.1)^a	0.2^a	2.0	2.7
2378-HpCDD	0.4^a	0.4^a	0.6^a	1.1^a	1.1^a	1.1	1.1
Total HpCDD	0.4^a	0.4^a	0.6^a	1.1^a	1.1^a	2.8	2.4
OCDD	0.5	0.5	0.8	1.1	1.5	2.0	1.6
2378-TCDF	ND(0.1)	ND(0.2)	0.1	0.2	1.0^a	0.6	0.6
Total TCDF	ND(0.2)	ND(0.2)	1.5	2.0	1.0^a	8.7	7.7
2378-PeCDF	ND(0.1)^a	ND(0.1)^a	1.7^a	ND(0.5)^a	1.2^a	1.9	1.4
Total PeCDF	ND(0.1)^a	ND(0.1)^a	1.7^a	ND(0.5)^a	1.2^a	9.5	10.1
2378-HxCDF	ND(0.2)^a	ND(0.1)^a	0.5^a	0.8^a	0.9^a	1.5	1.4
Total HxCDF	ND(0.2)^a	ND(0.1)^a	0.5^a	0.8^a	0.9^a	4.2	3.7
2378-HpCDF	ND(0.2)^a	0.3^a	0.4^a	0.5^a	0.8^a	2.8	2.8
Total HpCDF	ND(0.2)^a	0.3^a	0.4^a	0.5^a	0.8^a	5.0	4.7
OCDF	ND(0.3)	ND(0.1)	0.3	0.3	0.4	1.5	1.7

(PCDD and PCDF in Ambient Air)

	Monitoring Site			
	Watkins	Watkins	Rte. 4	SLAMS
Sample Date --	02/09/88	02/09/88	02/09/88	02/09/88
2378-TCDD	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.06)
Total TCDD	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.07)
2378-PeCDD	ND(0.1)[a]	ND(0.2)[a]	ND(0.2)[a]	ND(0.2)[a]
Total PeCDD	ND(0.1)[a]	ND(0.2)[a]	ND(0.2)[a]	ND(0.2)[a]
2378-HxCDD	ND(0.2)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.01)[a]
Total HxCDD	ND(0.2)[a]	ND(0.2)[a]	ND(0.1)[a]	ND(0.01)[a]
2378-HpCDD	0.6[a]	0.5[a]	0.3[a]	0.4[a]
Total HpCDD	0.6[a]	0.5[a]	0.3[a]	0.4[a]
OCDD	0.4	0.3	0.3	0.3
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.06)
Total TCDF	0.6	0.6	0.5	0.6
2378-PeCDF	0.7[a]	0.5[a]	ND(0.1)[a]	1.1[a]
Total PeCDF	0.7[a]	0.5[a]	ND(0.1)[a]	1.1[a]
2378-HxCDF	0.2[a]	0.2[a]	ND(0.2)[a]	0.4[a]
Total HxCDF	0.2[a]	0.2[a]	ND(0.2)[a]	0.4[a]
2378-HpCDF	0.2[a]	0.1[a]	0.1[a]	0.2[a]
Total HpCDF	0.2[a]	0.1[a]	0.1[a]	0.2[a]
OCDF	ND(0.2)	ND(0.1)	ND(0.2)	0.2

(PCDD and PCDF in Ambient Air)

	Field Blank	Field Blank	Field Blank	Field Blank
Sample Date --	11/05/87	12/11/87	01/04/88	02/09/88
2378-TCDD	ND(0.03)	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDD	ND(0.03)	ND(0.1)	ND(0.2)	ND(0.1)
2378-PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]
Total PeCDD	ND(0.1)[a]	ND(0.1)[a]	ND(0.1)[a]	ND(0.2)[a]
2378-HxCDD	ND(0.04)[a]	ND(0.03)[a]	ND(0.1)[a]	ND(0.02)[a]
Total HxCDD	ND(0.04)[a]	ND(0.03)[a]	ND(0.1)[a]	ND(0.02)[a]
2378-HpCDD	ND(0.2)[a]	ND(0.1)[a]	0.1[a]	ND(0.1)[a]
Total HpCDD	ND(0.2)[a]	ND(0.1)[a]	0.1[a]	ND(0.1)[a]
OCDD	0.1	0.1	0.2	0.1
2378-TCDF	ND(0.1)	ND(0.03)	ND(0.4)	ND(0.04)
Total TCDF	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.04)
2378-PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]
Total PeCDF	ND(0.1)[a]	ND(0.1)[a]	ND(0.04)[a]	ND(0.1)[a]
2378-HxCDF	ND(0.1)[a]	ND(0.2)[a]	ND(0.04)[a]	ND(0.04)[a]
Total HxCDF	ND(0.1)[a]	ND(0.2)[a]	ND(0.04)[a]	ND(0.04)[a]
2378-HpCDF	ND(0.03)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.04)[a]
Total HpCDF	ND(0.03)[a]	ND(0.04)[a]	ND(0.1)[a]	ND(0.04)[a]
OCDF	ND(0.1)	ND(0.1)	ND(0.1)	0.1

[a] In these cases, 2378-substituted isomers were not separately quantified from other isomers.

[b] Hexa-CDD isomer with chlorine in 2378 position was not detected and the detection limit has been assumed to be 0.1 pg/m^3 from other results.

[c] Isomer-specific analysis was not performed because of instrument malfunction.

PCDD and PCDF Concentrations in Ambient Air Samples in Rutland, Vermont
(pg/m^3)

	Monitoring Site						
	SLAMS	Rte. 4	Watkins	River St.	Watkins	Watkins	Rte. 4
Sample Date --	02/21/88	02/21/88	02/21/88	02/21/88	02/21/88	03/04/88	03/04/88
2378-TCDD	ND(0.02)	ND(0.03)	ND(0.08)	ND(0.05)	ND(0.02)	ND(0.05)	ND(0.07)
Total TCDD	ND(0.01)	ND(0.1)	ND(0.08)	ND(0.05)	ND(0.1)	0.08	ND(0.1)
2378-PeCDD	ND(0.02)	ND(0.02)	ND(0.06)	ND(0.1)	ND(0.04)	ND(0.07)	ND(0.07)
Total PeCDD	ND(0.2)	ND(0.2)	ND(0.06)	ND(0.1)	ND(0.2)	ND(0.07)	ND(0.07)
123478-HxCDD	ND(0.07)	ND(0.1)	ND(0.06)	ND(0.2)	ND(0.04)	ND(0.2)	ND(0.05)
123678-HxCDD	ND(0.07)	ND(0.1)	ND(0.06)	ND(0.2)	ND(0.04)	ND(0.2)	ND(0.05)
123789-HxCDD	ND(0.07)	ND(0.1)	ND(0.06)	ND(0.2)	ND(0.04)	ND(0.2)	ND(0.05)
Total HxCDD	ND(0.1)	ND(0.2)	ND(0.06)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.1)
2378-HpCDD	0.1	0.2	0.1	0.2	0.2	0.1	0.1
Total HpCDD	0.2	0.3	0.3	0.4	0.3	0.3	0.3
OCDD	0.5	0.7	0.5	0.6	0.7	0.4	0.4
2378-TCDF	0.2	0.2	0.4	0.2	ND(0.3)	0.04	0.4
Total TCDF	0.4	0.5	0.9	0.4	ND(0.5)	0.9	1.2
12378-PeCDF	ND(0.04)	ND(0.03)	ND(0.08)	ND(0.09)	ND(0.07)	ND(0.04)	ND(0.03)
23478-PeCDF	ND(0.04)	ND(0.03)	ND(0.08)	ND(0.09)	ND(0.07)	ND(0.04)	ND(0.03)
Total PeCDF	ND(0.09)	ND(0.1)	ND(0.08)	ND(0.09)	ND(0.2)	0.2	ND(0.3)
123478-HxCDF	ND(0.09)	ND(0.07)	ND(0.08)	ND(0.2)	ND(0.1)	0.1	ND(0.1)
123678-HxCDF	ND(0.09)	ND(0.07)	ND(0.08)	ND(0.2)	ND(0.1)	0.07	ND(0.1)
234678-HxCDF	ND(0.09)	ND(0.07)	ND(0.08)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)
123789-HxCDF	ND(0.09)	ND(0.07)	ND(0.08)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)
Total HxCDF	ND(0.1)	ND(0.1)	ND(0.08)	ND(0.2)	ND(0.2)	0.4	ND(0.1)
1234678-HpCDF	ND(0.04)	ND(0.04)	ND(0.1)	ND(0.08)	ND(0.07)	0.1	0.06
1234789-HpCDF	ND(0.04)	ND(0.04)	ND(0.1)	ND(0.08)	ND(0.07)	ND(0.02)	ND(0.02)
Total HpCDF	ND(0.04)	ND(0.05)	ND(0.1)	ND(0.08)	ND(0.1)	0.2	0.1
OCDF	0.1	0.1	ND(0.08)	ND(0.2)	ND(0.2)	0.2	0.06

(PCDD and PCDF in Ambient Air)

Monitoring Site

	River St.	Watkins	Rte. 4	River St.	SLAMS	Watkins	Watkins
Sample Date --	03/04/88	03/04/88	03/16/88	03/16/88	03/16/88	03/16/88	03/16/88
2378-TCDD	ND(0.01)	ND(0.02)	ND(0.09)	ND(0.3)	ND(0.1)	ND(0.04)	ND(0.08)
Total TCDD	0.7	0.09	ND(0.09)	ND(0.3)	ND(0.1)	ND(0.1)	ND(0.1)
2378-PeCDD	ND(0.1)	ND(0.03)	ND(0.07)	ND(0.1)	ND(0.03)	ND(0.04)	ND(0.2)
Total PeCDD	1.1	ND(0.03)	ND(0.07)	ND(0.1)	ND(0.08)	ND(0.08)	ND(0.2)
123478-HxCDD	ND(0.1)	ND(0.06)	ND(0.05)	ND(0.2)	ND(0.08)	ND(0.05)	ND(0.08)
123678-HxCDD	ND(0.09)	ND(0.06)	ND(0.05)	ND(0.2)	ND(0.08)	ND(0.05)	ND(0.08)
123789-HxCDD	ND(0.1)	ND(0.06)	ND(0.05)	ND(0.2)	ND(0.08)	ND(0.05)	ND(0.08)
Total HxCDD	1.5	0.1	0.1	ND(0.2)	0.1	ND(0.1)	ND(0.4)
2378-HpCDD	0.5	0.2	0.08	0.2	0.1	0.08	0.1
Total HpCDD	1.1	0.5	0.2	0.3	0.2	0.2	0.3
OCDD	0.8	0.5	0.2	0.5	0.3	0.3	0.3
2378-TCDF	0.05	0.04	ND(0.2)	ND(0.6)	ND(0.2)	0.4	0.4
Total TCDF	1.4	0.9	ND(0.2)	ND(0.6)	ND(0.3)	1.1	1.1
12378-PeCDF	0.1	0.05	ND(0.1)	ND(0.2)	ND(0.03)	ND(0.1)	ND(0.04)
23478-PeCDF	0.08	ND(0.05)	ND(0.1)	ND(0.2)	ND(0.03)	ND(0.1)	ND(0.04)
Total PeCDF	1.4	0.7	ND(0.2)	0.3	0.2	ND(0.06)	ND(0.2)
123478-HxCDF	0.2	0.07	ND(0.1)	ND(0.3)	ND(0.08)	ND(0.1)	ND(0.06)
123678-HxCDF	0.2	ND(0.07)	ND(0.1)	ND(0.3)	ND(0.08)	ND(0.1)	ND(0.06)
234678-HxCDF	ND(0.1)	ND(0.07)	ND(0.1)	ND(0.3)	ND(0.08)	ND(0.1)	ND(0.06)
123789-HxCDF	ND(0.1)	ND(0.07)	ND(0.1)	ND(0.3)	ND(0.08)	ND(0.1)	ND(0.06)
Total HxCDF	1.9	0.2	ND(0.1)	ND(0.3)	0.08	ND(0.1)	ND(0.2)
1234678-HpCDF	0.6	0.3	0.04	0.1	0.05	0.07	0.1
1234789-HpCDF	0.1	0.04	ND(0.01)	ND(0.06)	ND(0.03)	ND(0.02)	ND(0.04)
Total HpCDF	1.1	0.5	0.07	0.1	0.1	0.1	0.2
OCDF	0.4	0.3	0.03	0.2	0.05	0.1	0.1

(PCDD and PCDF in Ambient Air)

Monitoring Site

	SLAMS	Watkins	Watkins	River St.	Watkins	River St.	SLAMS
Sample Date --	03/28/88	03/28/88	03/28/88	03/28/89	04/21/88	04/21/88	04/21/88
2378-TCDD	ND(0.04)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.04)	ND(0.05)
Total TCDD	ND(0.04)	ND(0.05)	ND(0.1)	ND(0.2)	0.2	0.2	ND(0.1)
2378-PeCDD	ND(0.06)	ND(0.04)	ND(0.04)	ND(0.07)	ND(0.08)	ND(0.03)	ND(0.06)
Total PeCDD	ND(0.1)	ND(0.05)	ND(0.04)	ND(0.1)	ND(0.2)	0.3	ND(0.1)
123478-HxCDD	ND(0.08)	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.07)
123678-HxCDD	ND(0.08)	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.07)
123789-HxCDD	ND(0.08)	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.07)
Total HxCDD	ND(0.3)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	0.3	ND(0.2)
2378-HpCDD	0.2	0.1	0.1	0.1	0.1	0.2	0.2
Total HpCDD	0.4	0.2	0.2	0.2	0.4	0.3	0.4
OCDD	0.8	0.3	0.3	0.4	0.4	0.3	1.0
2378-TCDF	0.3	0.3	0.4	ND(0.3)	0.2	0.4	0.4
Total TCDF	0.6	0.7	1.2	ND(0.2)	1.1	1.0	1.0
12378-PeCDF	ND(0.02)	ND(0.05)	ND(0.2)	ND(0.04)	ND(0.08)	ND(0.09)	ND(0.05)
23478-PeCDF	ND(0.02)	ND(0.05)	ND(0.2)	ND(0.04)	ND(0.08)	ND(0.09)	ND(0.05)
Total PeCDF	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.6)	ND(0.2)	0.4	0.2
123478-HxCDF	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.1)	ND(0.02)	ND(0.1)	ND(0.07)
123678-HxCDF	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.1)	ND(0.02)	ND(0.1)	ND(0.07)
234678-HxCDF	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.07)	ND(0.02)	ND(0.1)	ND(0.07)
123789-HxCDF	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.07)	ND(0.02)	ND(0.1)	ND(0.07)
Total HxCDF	ND(0.2)	ND(0.2)	ND(0.06)	ND(0.1)	ND(0.2)	0.2	0.2
1234678-HpCDF	0.06	ND(0.1)	0.04	ND(0.03)	0.1	0.1	0.09
1234789-HpCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.01)	ND(0.06)	ND(0.05)	ND(0.04)
Total HpCDF	0.1	ND(0.2)	0.08	ND(0.02)	0.2	0.1	0.2
OCDF	0.09	ND(0.07)	ND(0.06)	0.04	0.04	0.07	0.1

(PCDD and PCDF in Ambient Air)

Monitoring Site

	Rte. 4	Watkins	River St.	Watkins	Watkins
Sample Date --	04/21/88	04/21/88	05/03/88	05/03/88	05/03/88
2378-TCDD	ND(0.04)	ND(0.04)	ND(0.06)	ND(0.05)	ND(0.1)
Total TCDD	0.2	ND(0.09)	ND(0.06)	0.08	ND(0.6)
2378-PeCDD	ND(0.03)	ND(0.04)	ND(0.05)	ND(0.04)	ND(0.1)
Total PeCDD	0.08	ND(0.07)	ND(0.4)	ND(0.3)	ND(0.4)
123478-HxCDD	ND(0.06)	ND(0.05)	ND(0.05)	ND(0.02)	ND(0.09)
123678-HxCDD	ND(0.06)	ND(0.05)	ND(0.05)	ND(0.02)	ND(0.09)
123789-HxCDD	ND(0.06)	ND(0.05)	ND(0.05)	ND(0.02)	ND(0.09)
Total HxCDD	0.2	0.1	ND(0.2)	ND(0.3)	ND(0.2)
2378-HpCDD	0.08	0.1	ND(0.1)	0.1	0.1
Total HpCDD	0.2	0.2	ND(0.3)	0.2	0.3
OCDD	0.3	0.3	0.4	0.4	0.4
2378-TCDF	0.4	0.4	0.1	0.4	0.1
Total TCDF	0.9	0.8	0.4	1.1	0.4
12378-PeCDF	ND(0.05)	ND(0.03)	ND(0.2)	0.04	ND(0.2)
23478-PeCDF	ND(0.05)	ND(0.03)	ND(0.2)	0.03	ND(0.2)
Total PeCDF	0.2	ND(0.2)	ND(0.4)	0.5	ND(0.4)
123478-HxCDF	ND(0.1)	ND(0.08)	ND(0.2)	0.03	ND(0.2)
123678-HxCDF	ND(0.1)	ND(0.08)	ND(0.2)	0.03	ND(0.2)
234678-HxCDF	ND(0.1)	ND(0.08)	ND(0.2)	ND(0.06)	ND(0.2)
123789-HxCDF	ND(0.1)	ND(0.08)	ND(0.2)	ND(0.06)	ND(0.2)
Total HxCDF	0.2	0.07	ND(0.3)	0.2	ND(0.3)
1234678-HpCDF	0.06	0.05	0.1	0.1	0.1
1234789-HpCDF	ND(0.02)	ND(0.07)	ND(0.05)	ND(0.05)	ND(0.05)
Total HpCDF	0.09	0.09	0.2	0.2	0.2
OCDF	0.06	0.06	0.1	0.1	0.4

(PCDD and PCDF in Ambient Air)

	Monitoring Site				
	Watkins	River St.	Rte. 4	Watkins	SLAMS
Sample Date --	05/27/88	05/27/88	05/27/88	05/27/88	05/03/88
2378-TCDD	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.02)
Total TCDD	0.09	0.07	0.1	0.09	
2378-PeCDD	ND(0.03)	ND(0.03)	ND(0.01)	ND(0.03)	ND(0.03)
Total PeCDD	ND(0.3)	ND(0.06)	ND(0.3)	ND(0.08)	ND(0.2)
123478-HxCDD	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.06)	ND(0.02)
123678-HxCDD	0.03	ND(0.04)	ND(0.02)	ND(0.06)	ND(0.02)
123789-HxCDD	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.06)	ND(0.02)
Total HxCDD	0.3	0.2	0.2	0.2	ND(0.2)
2378-HpCDD	0.1	0.1	0.1	0.1	0.2
Total HpCDD	0.3	0.3	0.3	0.3	0.3
OCDD	0.4	0.4	0.4	0.4	0.8
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.3)
Total TCDF	0.3	0.3	0.3	0.3	0.2
12378-PeCDF	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.2)
23478-PeCDF	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.2)
Total PeCDF	0.3	0.3	0.2	0.3	ND(0.3)
123478-HxCDF	0.03	0.03	0.03	0.03	ND(0.08)
123678-HxCDF	0.02	ND(0.02)	0.02	0.03	ND(0.08)
234678-HxCDF	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.08)
123789-HxCDF	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.08)
Total HxCDF	0.3	0.2	0.2	0.2	ND(0.2)
1234678-HpCDF	0.1	0.1	0.1	0.1	0.1
1234789-HpCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.05)
Total HpCDF	0.2	0.2	0.1	0.2	0.2
OCDF	0.08	0.06	0.08	0.08	0.2

(PCDD and PCDF in Ambient Air)

Monitoring Site

	SLAMS	Watkins	SLAMS	Watkins	River St.	River St.	Watkins
Sample Date --	05/27/88	06/20/88	06/20/88	06/20/88	06/20/88	07/26/88	07/26/88
2378-TCDD	ND(0.04)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.04)	ND(0.03)
Total TCDD	ND(0.1)	0.1	0.04	0.07	0.04	ND(0.07)	0.07
2378-PeCDD	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.1)	ND(0.06)
Total PeCDD	ND(0.08)	ND(0.1)	ND(0.06)	ND(0.1)	0.05	ND(0.3)	ND(0.06)
123478-HxCDD	ND(0.02)	ND(0.2)	ND(0.05)	ND(0.05)	ND(0.02)	ND(0.1)	ND(0.04)
123678-HxCDD	ND(0.02)	ND(0.2)	ND(0.05)	0.05	ND(0.02)	ND(0.1)	ND(0.04)
123789-HxCDD	ND(0.02)	ND(0.2)	ND(0.05)	ND(0.05)	ND(0.02)	ND(0.1)	ND(0.04)
Total HxCDD	0.2	0.4	0.2	0.3	0.2	ND(0.1)	ND(0.1)
2378-HpCDD	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Total HpCDD	0.3	0.4	0.3	0.4	0.3	0.3	0.3
OCDD	0.6	0.5	0.6	0.6	0.5	0.4	0.5
2378-TCDF	ND(0.2)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.04)	ND(0.07)
Total TCDF	0.7	0.5	0.2	0.5	ND(0.1)	0.3	0.4
12378-PeCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.04)	ND(0.01)	ND(0.05)	ND(0.06)
23478-PeCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.04)	ND(0.01)	ND(0.05)	ND(0.06)
Total PeCDF	ND(0.2)	0.3	0.2	0.4	ND(0.2)	ND(0.05)	ND(0.06)
123478-HxCDF	ND(0.1)	ND(0.04)	ND(0.05)	0.05	ND(0.04)	ND(0.04)	ND(0.06)
123678-HxCDF	ND(0.1)	ND(0.04)	ND(0.04)	0.05	ND(0.04)	ND(0.04)	ND(0.06)
234678-HxCDF	ND(0.1)	ND(0.04)	ND(0.04)	ND(0.05)	ND(0.04)	ND(0.04)	ND(0.06)
123789-HxCDF	ND(0.1)	ND(0.04)	ND(0.04)	ND(0.05)	ND(0.04)	ND(0.04)	ND(0.06)
Total HxCDF	0.2	0.3	0.2	0.4	0.2	ND(0.3)	0.2
1234678-HpCDF	0.1	0.1	0.1	0.2	0.08	0.05	0.07
1234789-HpCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.08)	ND(0.05)	ND(0.04)
Total HpCDF	0.2	0.2	0.2	0.3	0.1	0.1	0.1
OCDF	0.1	0.08	0.1	0.4	0.08	ND(0.2)	ND(0.2)

(PCDD and PCDF in Ambient Air)

	Monitoring Site						
	Rte. 4	Watkins	SLAMS	Watkins	SLAMS	River St.	Watkins
Sample Date --	07/26/88	07/26/88	07/26/88	08/07/88	08/07/88	08/07/88	08/07/88
2378-TCDD	ND(0.06)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.05)	ND(0.02)	ND(0.03)
Total TCDD	ND(0.1)	ND(0.06)	ND(0.1)	0.07	ND(0.06)	ND(0.07)	ND(0.06)
2378-PeCDD	ND(0.03)	ND(0.06)	ND(0.05)	ND(0.05)	ND(0.04)	ND(0.03)	ND(0.06)
Total PeCDD	ND(0.1)	ND(0.1)	0.2	ND(0.1)	ND(0.2)	ND(0.04)	ND(0.1)
123478-HxCDD	ND(0.03)	ND(0.03)	ND(0.04)	ND(0.05)	ND(0.07)	ND(0.04)	ND(0.07)
123678-HxCDD	ND(0.03)	ND(0.03)	ND(0.04)	ND(0.05)	ND(0.07)	ND(0.04)	ND(0.07)
123789-HxCDD	ND(0.03)	ND(0.03)	ND(0.04)	ND(0.05)	ND(0.07)	ND(0.04)	ND(0.07)
Total HxCDD	ND(0.1)	ND(0.09)	ND(0.2)	0.3	0.2	0.2	0.3
2378-HpCDD	0.1	0.1	0.2	0.2	0.1	0.1	0.2
Total HpCDD	0.3	0.3	0.4	0.4	0.3	0.3	0.4
OCDD	0.3	0.4	1.0	0.4	0.4	0.3	0.4
2378-TCDF	ND(0.09)	ND(0.07)	ND(0.06)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDF	0.5	0.4	0.3	0.2	ND(0.1)	ND(0.1)	0.1
12378-PeCDF	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.02)
23478-PeCDF	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.02)
Total PeCDF	ND(0.04)	ND(0.2)	ND(0.1)	ND(0.2)	0.1	ND(0.1)	ND(0.2)
123478-HxCDF	ND(0.05)	ND(0.04)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.06)
123678-HxCDF	ND(0.05)	ND(0.04)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.06)
234678-HxCDF	ND(0.05)	ND(0.04)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.06)
123789-HxCDF	ND(0.05)	ND(0.04)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.04)	ND(0.06)
Total HxCDF	ND(0.2)	ND(0.08)	0.3	0.2	ND(0.3)	0.2	0.2
1234678-HpCDF	0.05	ND(0.03)	0.07	0.06	0.07	ND(0.06)	0.05
1234789-HpCDF	ND(0.03)	ND(0.03)	ND(0.07)	ND(0.06)	ND(0.05)	ND(0.03)	ND(0.05)
Total HpCDF	0.09	ND(0.07)	0.2	0.1	0.1	0.09	0.1
OCDF	ND(0.05)	ND(0.05)	0.2	ND(0.05)	0.06	ND(0.03)	ND(0.05)

(PCDD and PCDF in Ambient Air)

	Monitoring Site						
	Watkins	SLAMS	Watkins	Rte. 4	River St.	Watkins	Watkins
Sample Date --	08/31/88	08/31/88	08/31/88	08/31/88	08/31/88	09/24/88	09/24/88
2378-TCDD	ND(0.02)	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.03)	ND(0.03)	ND(0.02)
Total TCDD	0.06	ND(0.05)	0.07	ND(0.04)	ND(0.09)	ND(0.03)	ND(0.05)
2378-PeCDD	ND(0.01)	ND(0.04)	ND(0.05)	ND(0.1)	ND(0.07)	ND(0.09)	ND(0.02)
Total PeCDD	ND(0.2)	ND(0.3)	ND(0.2)	ND(0.1)	ND(0.3)	ND(0.2)	ND(0.08)
123478-HxCDD	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.1)	ND(0.03)	ND(0.1)	ND(0.06)
123678-HxCDD	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.1)	ND(0.03)	ND(0.1)	ND(0.06)
123789-HxCDD	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.1)	ND(0.03)	ND(0.1)	ND(0.06)
Total HxCDD	ND(0.1)	0.2	0.2	0.5	ND(0.2)	ND(0.2)	0.2
2378-HpCDD	0.09	0.1	0.1	0.3	0.08	0.2	0.2
Total HpCDD	0.2	0.3	0.3	0.5	0.2	0.4	0.4
OCDD	0.3	0.4	0.5	0.7	0.3	0.6	0.5
2378-TCDF	ND(0.2)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDF	0.3	0.5	ND(0.1)	0.3	ND(0.1)	ND(0.1)	0.3
12378-PeCDF	ND(0.01)	ND(0.04)	ND(0.03)	ND(0.06)	ND(0.02)	ND(0.03)	ND(0.01)
23478-PeCDF	ND(0.01)	ND(0.04)	ND(0.03)	ND(0.06)	ND(0.02)	ND(0.03)	ND(0.01)
Total PeCDF	0.06	0.2	ND(0.2)	ND(0.08)	ND(0.08)	ND(0.2)	ND(0.2)
123478-HxCDF	ND(0.04)	ND(0.01)	ND(0.1)	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.2)
123678-HxCDF	ND(0.04)	ND(0.01)	ND(0.1)	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.2)
234678-HxCDF	ND(0.04)	ND(0.01)	ND(0.1)	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.2)
123789-HxCDF	ND(0.04)	ND(0.01)	ND(0.1)	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.2)
Total HxCDF	ND(0.1)	ND(0.2)	0.4	ND(0.2)	ND(0.2)	ND(0.1)	ND(0.2)
1234678-HpCDF	0.02	0.1	0.1	ND(0.06)	0.04	ND(0.02)	0.04
1234789-HpCDF	ND(0.01)	ND(0.01)	ND(0.04)	ND(0.06)	ND(0.04)	ND(0.02)	ND(0.04)
Total HpCDF	0.07	0.2	0.2	0.1	0.07	0.05	0.09
OCDF	0.05	0.1	0.4	ND(0.1)	ND(0.07)	ND(0.09)	ND(0.08)

(PCDD and PCDF in Ambient Air)

Monitoring Site

	River St.	SLAMS	SLAMS	Watkins	Watkins	Rte. 4	River St.
Sample Date --	9/24/88	09/24/88	10/06/88	10/06/88	10/06/88	10/06/88	10/06/88
2378-TCDD	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.01)	ND(0.02)	ND(0.03)
Total TCDD	ND(0.04)	ND(0.07)	ND(0.08)	ND(0.08)	ND(0.01)	ND(0.04)	ND(0.06)
2378-PeCDD	ND(0.02)	ND(0.04)	ND(0.03)	ND(0.03)	ND(0.3)	ND(0.07)	ND(0.05)
Total PeCDD	ND(0.1)	ND(0.3)	0.7	ND(0.2)	ND(0.3)	ND(0.08)	ND(0.3)
123478-HxCDD	ND(0.03)	ND(0.08)	0.04	ND(0.03)	ND(0.2)	ND(0.05)	0.06
123678-HxCDD	ND(0.03)	ND(0.08)	0.08	0.05	ND(0.2)	ND(0.05)	0.09
123789-HxCDD	ND(0.03)	ND(0.08)	0.05	0.03	ND(0.2)	ND(0.05)	0.06
Total HxCDD	ND(0.1)	0.2	0.9	0.6	ND(0.2)	0.2	1.3
2378-HpCDD	0.2	0.05	1.3	0.4	0.4	0.1	1.3
Total HpCDD	0.3	0.1	2.7	0.9	1.0	0.3	2.4
OCDD	0.3	0.3	2.6	0.7	0.6	0.3	1.6
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.4)	ND(0.3)	ND(0.4)	ND(0.4)	ND(0.2)
Total TCDF	ND(0.1)	0.1	0.8	0.6	0.9	ND(0.9)	0.3
12378-PeCDF	ND(0.02)	ND(0.02	0.03	ND(0.03)	ND(0.07)	ND(0.01)	ND(0.03)
23478-PeCDF	ND(0.02)	ND(0.02)	0.2	ND(0.03)	ND(0.07)	ND(0.01)	ND(0.03)
Total PeCDF	ND(0.1)	0.2	0.7	ND(0.04)	ND(0.07)	ND(0.1)	ND(0.04)
123478-HxCDF	ND(0.03)	ND(0.08)	0.04	ND(0.03)	ND(0.2)	ND(0.04)	ND(0.02)
123678-HxCDF	ND(0.03)	ND(0.08)	0.03	ND(0.03)	ND(0.2)	ND(0.04)	ND(0.02)
234678-HxCDF	ND(0.03)	ND(0.08)	ND(0.03)	ND(0.03)	ND(0.2)	ND(0.04)	ND(0.02)
123789-HxCDF	ND(0.03)	ND(0.08	ND(0.03)	ND(0.03)	ND(0.2)	ND(0.04)	ND(0.02)
Total HxCDF	ND(0.4)	ND(0.3)	0.5	0.2	ND(0.2)	0.1	0.2
1234678-HpCDF	0.04	0.04	0.2	0.1	0.2	0.05	0.1
1234789-HpCDF	ND(0.01)	ND(0.01)	ND(0.1)	ND(0.1)	ND(0.01)	ND(0.05)	ND(0.1)
Total HpCDF	0.08	0.1	0.4	0.2	0.3	0.08	0.2
OCDF	ND(0.04)	0.05	0.4	0.07	0.2	0.04	

(PCDD and PCDF in Ambient Air)

	Monitoring Site					
	Watkins	Watkins	River St.	Watkins	Watkins	SLAMS
Sample Date --	10/18/88	10/18/88	10/18/88	10/30/88	10/30/88	10/30/88
2378-TCDD	ND(0.02)	ND(0.04)	ND(0.02)	ND(0.03)	ND(0.03)	ND(0.03)
Total TCDD	ND(0.08)	ND(0.04)	ND(0.06)	ND(0.03)	ND(0.03)	ND(0.03)
2378-PeCDD	ND(0.02)	ND(0.07)	ND(0.03)	ND(0.04)	ND(0.01)	ND(0.02)
Total PeCDD	ND(0.3)	ND(0.07)	ND(0.2)	ND(0.04)	ND(0.07)	ND(0.07)
123478-HxCDD	ND(0.02)	ND(0.04)	ND(0.02)	ND(0.1)	ND(0.04)	ND(0.04)
123678-HxCDD	ND(0.02)	ND(0.04)	ND(0.02)	ND(0.1)	ND(0.04)	ND(0.04)
123789-HxCDD	ND(0.02)	ND(0.04)	ND(0.02)	ND(0.1)	ND(0.04)	ND(0.04)
Total HxCDD	0.09	ND(0.04)	ND(0.05)	ND(0.2)	0.3	0.2
2378-HpCDD	0.08	0.07	0.06	0.1	0.1	0.1
Total HpCDD	0.2	0.2	0.2	0.2	0.2	0.3
OCDD	0.2	0.3	0.1	0.3	0.3	0.4
2378-TCDF	ND(0.1)	ND(0.2)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDF	0.4	0.5	0.3	0.3	0.3	0.3
12378-PeCDF	ND(0.04)	ND(0.06)	ND(0.03)	ND(0.07)	ND(0.01)	ND(0.1)
23478-PeCDF	ND(0.04)	ND(0.06)	ND(0.03)	ND(0.07)	ND(0.01)	ND(0.1)
Total PeCDF	ND(0.04)	ND(0.06)	ND(0.1)	ND(0.07)	0.1	ND(0.1)
123478-HxCDF	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.1)	ND(0.03)	ND(0.04)
123678-HxCDF	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.1)	ND(0.03)	ND(0.04)
234678-HxCDF	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.1)	ND(0.03)	ND(0.04)
123789-HxCDF	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.1)	ND(0.03)	ND(0.04)
Total HxCDF	0.1	ND(0.03)	ND(0.1)	ND(0.1)	ND(0.07)	ND(0.04)
1234678-HpCDF	0.03	ND(0.05)	0.05	ND(0.02)	0.06	ND(0.05)
1234789-HpCDF	ND(0.03)	ND(0.05)	ND(0.05)	ND(0.02)	ND(0.03)	ND(0.05)
Total HpCDF	0.06	0.1	0.09	0.03	0.08	0.08
OCDF	0.04	ND(0.07)	0.05	0.06	0.08	ND(0.06)

(PCDD and PCDF in Ambient Air)

Monitoring Site

	Rte. 4	River St.	Watkins	Watkins	River St.	SLAMS
Sample Date --	10/30/88	10/30/88	11/11/88	11/11/88	11/11/88	11/11/88
2378-TCDD	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.1)	ND(0.03)
Total TCDD	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	0.4	ND(0.03)
2378-PeCDD	ND(0.01)	ND(0.01)	ND(0.04)	ND(0.06)	ND(0.02)	ND(0.08)
Total PeCDD	0.07	ND(0.1)	ND(0.08)	ND(0.06)	ND(0.02)	ND(0.08)
123478-HxCDD	ND(0.05)	ND(0.05)	ND(0.03)	ND(0.08)	ND(0.08)	ND(0.07)
123678-HxCDD	ND(0.05)	ND(0.05)	ND(0.03)	ND(0.08)	ND(0.08)	ND(0.07)
123789-HxCDD	ND(0.05)	ND(0.05)	ND(0.03)	ND(0.08)	ND(0.08)	ND(0.07)
Total HxCDD	0.2	0.2	ND(0.09)	ND(0.08)	ND(0.08)	ND(0.07)
2378-HpCDD	0.09	0.09	0.04	0.04	0.07	0.08
Total HpCDD	0.2	0.2	0.09	0.07	0.1	0.2
OCDD	0.4	0.4	0.2	0.2	0.2	0.4
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDF	ND(0.1)	0.2	0.5	0.2	0.4	0.2
12378-PeCDF	ND(0.02)	ND(0.03)	ND(0.04)	ND(0.03)	ND(0.05)	ND(0.06)
23478-PeCDF	ND(0.02)	ND(0.03)	ND(0.04)	ND(0.03)	ND(0.05)	ND(0.06)
Total PeCDF	ND(0.1)	0.2	ND(0.08)	ND(0.05)	ND(0.05)	ND(0.07)
123478-HxCDF	ND(0.04)	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.04)	ND(0.02)
123678-HxCDF	ND(0.04)	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.04)	ND(0.02)
234678-HxCDF	ND(0.04)	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.04)	ND(0.02)
123789-HxCDF	ND(0.04)	ND(0.04)	ND(0.02)	ND(0.04)	ND(0.04)	ND(0.02)
Total HxCDF	ND(0.08)	0.1	ND(0.06)	ND(0.04)	ND(0.04)	ND(0.05)
1234678-HpCDF	0.05	0.07	ND(0.03)	ND(0.02)	ND(0.06)	0.02
1234789-HpCDF	ND(0.03)	ND(0.05)	ND(0.03)	ND(0.02)	ND(0.06)	ND(0.02)
Total HpCDF	0.08	0.1	ND(0.04)	0.04	ND(0.06)	0.06
OCDF	0.05	0.05	0.02	ND(0.01)	0.03	0.06

(PCDD and PCDF in Ambient Air)

	Monitoring Site					
	River St.	Rte. 4	Watkins	Watkins	SLAMS	River St.
Sample Date --	11/23/88	11/23/88	11/23/88	11/23/88	11/23/88	12/05/88
2378-TCDD	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.04)
Total TCDD	ND(0.06)	0.06	0.09	0.09	0.2	ND(0.7)
2378-PeCDD	ND(0.07)	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.07)
Total PeCDD	ND(0.2)	ND(0.2)	ND(0.2)	0.2	0.2	ND(1.4)
123478-HxCDD	ND(0.03)	ND(0.02)	ND(0.04)	ND(0.04)	ND(0.02)	0.05
123678-HxCDD	0.05	ND(0.02)	ND(0.04)	ND(0.04)	0.06	0.1
123789-HxCDD	ND(0.07)	ND(0.02)	ND(0.04)	ND(0.04)	0.02	0.07
Total HxCDD	0.5	0.2	0.2	0.2	0.4	1.4
2378-HpCDD	0.4	0.2	0.1	0.2	0.3	0.9
Total HpCDD	0.7	0.3	0.3	0.3	0.6	1.7
OCDD	0.9	0.5	0.5	0.5	1.0	1.2
2378-TCDF	0.1	0.1	ND(0.1)	ND(0.1)	ND(0.1)	0.2
Total TCDF	0.5	0.5	0.1	0.5	0.9	2.6
12378-PeCDF	ND(0.05)	ND(0.02)	ND(0.05)	ND(0.02)	0.03	0.2
23478-PeCDF	0.05	ND(0.02)	ND(0.05)	ND(0.02)	0.03	0.3
Total PeCDF	0.8	ND(0.3)	0.1	0.1	0.3	3.3
123478-HxCDF	ND(0.05)	ND(0.02)	0.03	ND(0.04)	0.1	0.4
123678-HxCDF	0.05	ND(0.02)	ND(0.03)	ND(0.04)	ND(0.1)	0.3
234678-HxCDF	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.04)	ND(0.1)	0.09
123789-HxCDF	0.05	ND(0.02)	ND(0.03)	ND(0.04)	ND(0.1)	0.4
Total HxCDF	0.4	0.2	0.09	0.1	0.3	2.9
1234678-HpCDF	0.08	0.05	0.03	0.05	0.1	1.1
1234789-HpCDF	0.02	ND(0.03)	ND(0.02)	ND(0.01)	ND(0.01)	0.1
Total HpCDF	0.1	0.07	0.05	0.08	0.2	1.7
OCDF	0.1	0.05	0.03	0.1	0.2	0.5

(PCDD and PCDF in Ambient Air)

	Monitoring Site					
	SLAMS	Watkins	Watkins	SLAMS	Watkins	Watkins
Sample Date --	12/05/88	12/05/88	12/05/88	12/17/88	12/17/88	12/17/88
2378-TCDD	ND(0.01)	0.09	0.1	0.03	0.04	0.02
Total TCDD	ND(0.2)	3.4	3.4	0.2	0.3	0.4
2378-PeCDD	ND(0.03)	0.6	0.6	ND(0.1)	ND(0.04)	0.03
Total PeCDD	ND(0.3)	9.5	9.7	0.5	ND(0.4)	0.7
123478-HxCDD	ND(0.04)	0.8	0.7	0.05	0.05	0.04
123678-HxCDD	0.04	1.3	1.4	0.08	0.08	0.07
123789-HxCDD	ND(0.04)	1.0	0.8	0.07	ND(0.08)	0.07
Total HxCDD	0.5	15.2	14.9	1.1	0.9	0.9
2378-HpCDD	0.3	10.9	11.0	1.0	0.6	0.6
Total HpCDD	0.6	20.5	20.9	2.2	1.4	1.3
OCDD	0.7	10.6	10.8	3.0	1.8	1.9
2378-TCDF	ND(0.3)	1.0	0.8	0.03	0.06	0.05
Total TCDF	0.9	39.4	30.3	0.9	1.8	3.2
12378-PeCDF	0.04	3.8	3.7	0.04	0.05	0.1
23478-PeCDF	0.04	3.8	3.4	0.06	0.09	0.1
Total PeCDF	0.7	52.4	52.2	0.9	0.9	1.9
123478-HxCDF	0.05	5.1	5.2	0.06	0.04	0.09
123678-HxCDF	0.05	4.8	5.1	0.05	ND(0.06)	0.09
234673-HxCDF	ND(0.01)	1.2	1.9	ND(0.01)	ND(0.04)	ND(0.04)
123789-HxCDF	0.05	7.2	8.1	0.03	0.04	0.06
Total HxCDF	0.6	45.2	58.0	0.6	0.5	0.9
1234678-HpCDF	0.2	17.3	20.4	0.2	0.1	0.1
1234789-HpCDF	0.03	2.3	2.4	ND(0.04)	0.01	0.01
Total HpCDF	0.5	26.1	30.5	0.4	0.2	0.2
OCDF	0.3	8.5	10.2	0.2	0.1	0.1

(PCDD and PCDF in Ambient Air)

	Monitoring Site					
	River St.	Rte. 4	Watkins	Watkins	River St.	SLAMS
Sample Date --	12/17/88	12/17/88	1/22/89	1/22/89	1/22/89	1/22/89
2378-TCDD	ND(0.05)	ND(0.05)	0.1	0.1	ND(0.06)	ND(0.01)
Total TCDD	0.3	0.2	3.1	3.3	0.06	ND(0.09)
2378-PeCDD	ND(0.03)	ND(0.02)	0.5	0.5	ND(0.05)	ND(0.03)
Total PeCDD	ND(0.1)	ND(0.4)	7.4	7.3	ND(0.4)	ND(0.3)
123478-HxCDD	ND(0.1)	ND(0.02)	0.4	0.5	ND(0.04)	ND(0.05)
123678-HxCDD	ND(0.1)	0.05	0.9	0.9	ND(0.04)	ND(0.05)
123789-HxCDD	ND(0.1)	0.06	0.8	0.8	ND(0.04)	ND(0.05)
Total HxCDD	ND(0.4)	0.6	12.2	11.7	0.4	0.3
2378-HpCDD	0.5	0.4	8.4	8.1	0.2	0.2
Total HpCDD	1.1	0.9	15.0	15.8	0.3	0.3
OCDD	2.0	1.4	12.7	13.0	0.5	0.6
2378-TCDF	0.08	0.03	0.7	0.6	0.04	0.03
Total TCDF	0.5	1.3	36.4	48.6	0.7	1.2
12378-PeCDF	ND(0.03)	0.04	3.7	4.1	0.04	0.04
23478-PeCDF	ND(0.03)	0.03	4.0	4.9	ND(0.04)	0.03
Total PeCDF	0.3	0.5	56.5	67.0	0.5	0.5
123478-HxCDF	ND(0.1)	0.05	5.8	6.3	0.03	0.04
123678-HxCDF	ND(0.1)	0.05	5.3	5.5	0.06	ND(0.04)
234678-HxCDF	ND(0.1)	ND(0.02)	2.2	1.9	ND(0.06)	ND(0.04)
123789-HxCDF	ND(0.1)	ND(0.02)	6.1	5.3	ND(0.06)	ND(0.04)
Total HxCDF	0.3	0.4	41.7	40.8	0.3	0.3
1234678-HpCDF	0.1	0.2	28.5	25.7	0.09	0.2
1234789-HpCDF	ND(0.01)	ND(0.03)	3.6	2.5	0.01	ND(0.01)
Total HpCDF	0.3	0.2	37.2	43.5	0.1	0.2
OCDF	0.2	0.1	25.2	27.5	0.09	0.2

(PCDD and PCDF in Ambient Air)

	Monitoring Site					
	Rte. 4	Watkins	Watkins	Rte. 4	River St.	SLAMS
Sample Date --	01/22/89	02/03/89	02/03/89	02/03/89	02/03/89	02/03/89
2378-TCDD	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.02)
Total TCDD	0.4	ND(0.1)	0.1	ND(0.1)	ND(0.1)	ND(0.07)
2378-PeCDD	0.07	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.04)
Total PeCDD	1.0	0.2	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.04)
123478-HxCDD	ND(0.1)	ND(0.03)	0.02	ND(0.08)	ND(0.1)	0.1
123678-HxCDD	0.1	0.05	0.06	ND(0.08)	ND(0.1)	ND(0.1)
123789-HxCDD	0.06	ND(0.03)	0.02	ND(0.08)	ND(0.1)	ND(0.1)
Total HxCDD	1.9	0.5	0.6	0.2	0.8	0.6
2378-HpCDD	1.2	0.2	0.2	0.2	0.2	0.2
Total HpCDD	2.3	0.4	0.3	0.3	0.4	0.3
OCDD	2.0	0.6	0.4	0.5	0.5	0.6
2378-TCDF	0.1	0.02	0.02	0.1	0.05	0.06
Total TCDF	2.9	0.7	0.7	0.4	0.2	0.3
12378-PeCDF	0.3	0.03	0.04	ND(0.02)	ND(0.02)	ND(0.03)
23478-PeCDF	0.3	0.04	0.04	ND(0.02)	ND(0.02)	ND(0.02)
Total PeCDF	4.3	0.5	0.5	0.3	0.2	0.3
123478-HxCDF	0.6	ND(0.07)	0.02	ND(0.08)	ND(0.06)	ND(0.07)
123678-HxCDF	0.5	ND(0.06)	0.02	ND(0.08)	ND(0.06)	ND(0.07)
234678-HxCDF	0.2	ND(0.03)	0.02	ND(0.08)	ND(0.06)	ND(0.07)
123789-HxCDF	0.5	0.08	0.02	ND(0.08)	ND(0.06)	ND(0.07)
Total HxCDF	4.6	0.9	0.3	0.2	0.2	0.3
1234678-HpCDF	3.0	0.1	0.1	0.07	0.06	0.07
1234789-HpCDF	0.3	0.01	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.07)
Total HpCDF	4.6	0.2	0.1	0.1	0.1	0.1
OCDF	3.1	0.08	0.06	0.07	0.05	0.07

(PCDD and PCDF in Ambient Air)

	Monitoring Site				
	SLAMS	Watkins	Watkins	River St.	Rte. 4
Sample Date --	02/15/89	02/15/89	02/15/89	02/15/89	02/15/89
2378-TCDD	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.01)
Total TCDD	ND(0.1)	ND(0.1)	ND(0.2)	0.2	0.1
2378-PeCDD	ND(0.03)	ND(0.03)	ND(0.05)	ND(0.04)	ND(0.03)
Total PeCDD	0.4	0.4	0.4	0.7	ND(0.5)
123478-HxCDD	ND(0.04)	0.03	ND(0.02)	0.04	ND(0.2)
123678-HxCDD	0.1	0.1	ND(0.06)	0.1	ND(0.2)
123789-HxCDD	ND(0.04)	0.03	ND(0.07)	0.1	ND(0.2)
Total HxCDD	1.3	1.4	1.2	1.7	1.0
2378-HpCDD	0.7	0.7	0.7	0.8	0.7
Total HpCDD	1.5	1.4	1.5	1.7	1.5
OCDD	1.8	1.6	1.6	1.7	1.7
2378-TCDF	ND(0.03)	0.02	ND(0.03)	0.03	0.07
Total TCDF	0.5	0.8	1.0	0.7	0.6
12378-PeCDF	0.02	0.03	0.03	ND(0.05)	ND(0.03)
23478-PeCDF	0.02	0.03	0.03	0.05	ND(0.02)
Total PeCDF	0.3	0.5	0.5	0.6	0.3
123478-HxCDF	ND(0.02)	0.03	0.05	0.04	ND(0.1)
123678-HxCDF	0.02	0.03	ND(0.03)	0.04	ND(0.1)
234678-HxCDF	ND(0.02)	0.01	ND(0.03)	ND(0.01)	ND(0.1)
123789-HxCDF	0.02	ND(0.02)	0.03	0.04	ND(0.1)
Total HxCDF	0.3	0.4	0.5	0.5	0.3
1234678-HpCDF	0.1	0.1	0.1	0.2	0.1
1234789-HpCDF	0.01	0.01	ND(0.02)	0.03	ND(0.01)
Total HpCDF	0.2	0.2	0.2	0.4	0.1
OCDF	0.1	0.1	0.1	0.2	0.1

(PCDD and PCDF in Ambient Air)

Monitoring Site

	River St.[a]	SLAMS[a]	Rte. 4[a]	Rte. 4[a]	Rte. 4[a]	Rte. 4[a]
Sample Date --	02/09/88	03/04/88	03/28/88	05/03/88	06/20/88	08/07/88
2378-TCDD	ND(0.03)	ND(0.08)	ND(0.01)	ND(0.02)	ND(0.01)	ND(0.02)
Total TCDD	ND(0.08)	ND(0.2)	ND(0.05)	ND(0.05)	0.06	0.07
2378-PeCDD	ND(0.05)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)
Total PeCDD	ND(0.2)	ND(0.1)	ND(0.03)	ND(0.1)	0.2	0.2
123478-HxCDD	ND(0.03)	ND(0.05)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.06)
123678-HxCDD	ND(0.03)	ND(0.05)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.06)
123789-HxCDD	ND(0.03)	ND(0.05)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.06)
Total HxCDD	ND(0.2)	ND(0.07)	ND(0.08)	ND(0.09)	0.2	0.3
2378-HpCDD	0.1	0.08	0.1	0.06	0.1	0.3
Total HpCDD	0.3	0.2	0.2	0.1	0.3	0.7
OCDD	0.4	0.3	0.4	0.3	0.5	0.8
2378-TCDF	0.06	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)ND(0.1)
Total TCDF	0.4	ND(0.3)	ND(0.1)	ND(0.1)	ND(0.4)	ND(0.1)
12378-PeCDF	ND(0.03)	ND(0.08)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
23478-PeCDF	ND(0.03)	ND(0.08)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Total PeCDF	ND(0.3)	ND(0.08)	ND(0.07)	0.09	0.1	0.1
123478-HxCDF	ND(0.04)	ND(0.03)	ND(0.01)	0.01	ND(0.03)	ND(0.02)
123678-HxCDF	ND(0.04)	ND(0.03)	ND(0.01)	0.01	ND(0.03)	ND(0.02)
234678-HxCDF	ND(0.04)	ND(0.03)	ND(0.01)	0.01	ND(0.03)	ND(0.02)
123789-HxCDF	ND(0.04)	ND(0.03)	ND(0.01)	ND(0.01)	ND(0.03)	ND(0.02)
Total HxCDF	0.2	ND(0.03)	ND(0.04)	0.06	0.1	0.09
1234678-HpCDF	0.08	0.03	0.02	0.02	0.05	0.03
1234789-HpCDF	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.05)	ND(0.03)
Total HpCDF	0.1	0.07	0.05	0.05	0.08	0.05
OCDF	0.05	ND(0.1)	0.04	ND(0.03)	0.06	0.03

(PCDD and PCDF in Ambient Air)

	Monitoring Site		
	Rte. 4[a]	Rte. 4[a]	Rte. 4[a]
Sample Date --	10/18/88	11/11/88	12/05/88
2378-TCDD	ND(0.06)	ND(0.02)	ND(0.03)
Total TCDD	ND(0.06)	ND(0.02)	ND(0.03)
2378-PeCDD	ND(0.1)	ND(0.1)	ND(0.02)
Total PeCDD	0.2	ND(0.1)	0.2
123478-HxCDD	ND(0.04)	ND(0.02)	ND(0.02)
123678-HxCDD	ND(0.04)	ND(0.02)	0.04
123789-HxCDD	ND(0.04)	ND(0.02)	ND(0.02)
Total HxCDD	0.2	0.1	0.4
2378-HpCDD	0.1	0.08	0.2
Total HpCDD	0.2	0.1	0.4
OCDD	0.2	0.3	0.5
2378-TCDF	ND(0.1)	ND(0.1)	ND(0.1)
Total TCDF	0.1	0.1	0.4
12378-PeCDF	ND(0.03)	ND(0.01)	0.03
23478-PeCDF	ND(0.03)	ND(0.01)	0.04
Total PeCDF	0.3	0.08	0.03
123478-HxCDF	ND(0.03)	ND(0.05)	0.03
123678-HxCDF	ND(0.03)	ND(0.05)	0.02
234678-HxCDF	ND(0.03)	ND(0.05)	ND(0.02)
123789-HxCDF	ND(0.03)	ND(0.05)	0.03
Total HxCDF	0.3	ND(0.05)	0.3
1234678-HpCDF	ND(0.03)	ND(0.02)	0.08
1234789-HpCDF	ND(0.03)	ND(0.02)	ND(0.08)
Total HpCDF	0.06	ND(0.04)	0.1
OCDF	0.06	0.2	0.06

(PCDD and PCDF in Ambient Air)

	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank
Sample Date --	03/03/88	03/16/88	04/21/88	05/27/88	07/26/88	08/31/88
2378-TCDD	ND(0.05)	ND(0.06)	ND(0.06)	ND(0.02)	ND(0.01)	ND(0.01)
Total TCDD	ND(0.1)	ND(0.06)	ND(0.06)	ND(0.08)	ND(0.04)	ND(0.03)
2378-PeCDD	ND(0.07)	ND(0.01)	ND(0.08)	ND(0.1)	ND(0.01)	ND(0.02)
Total PeCDD	ND(0.07)	ND(0.01)	ND(0.08)	ND(0.1)	ND(0.09)	ND(0.09)
123478-HxCDD	ND(0.03)	ND(0.01)	ND(0.02)	ND(0.08)	ND(0.02)	ND(0.04)
123678-HxCDD	ND(0.03)	ND(0.01)	ND(0.02)	ND(0.08)	ND(0.02)	ND(0.04)
123789-HxCDD	ND(0.03)	ND(0.01)	ND(0.02)	ND(0.08)	ND(0.02)	ND(0.04)
Total HxCDD	ND(0.1)	ND(0.01)	ND(0.02)	ND(0.08)	ND(0.05)	ND(0.05)
2378-HpCDD	0.04	0.05	0.05	0.05	0.03	0.06
Total HpCDD	0.09	0.1	0.1	0.1	0.07	ND(0.02)
OCDD	0.2	0.2	0.1	0.2	0.1	0.2
2378-TCDF	0.3	ND(0.02)	0.3	0.2	ND(0.08)	0.3
Total TCDF	0.7	ND(0.02)	0.6	0.6	ND(0.1)	0.6
12378-PeCDF	ND(0.03)	ND(0.02)	ND(0.08)	ND(0.02)	ND(0.01)	ND(0.02)
23478-PeCDF	ND(0.03)	ND(0.02)	ND(0.08)	ND(0.02)	ND(0.01)	ND(0.02)
Total PeCDF	ND(0.03)	ND(0.02)	ND(0.08)	ND(0.02)	ND(0.01)	ND(0.09)
123478-HxCDF	ND(0.03)	ND(0.01)	ND(0.01)	ND(0.1)	ND(0.02)	ND(0.01)
123678-HxCDF	ND(0.03)	ND(0.01)	ND(0.01)	ND(0.1)	ND(0.02)	ND(0.01)
234678-HxCDF	ND(0.03)	ND(0.01)	ND(0.01)	ND(0.1)	ND(0.02)	ND(0.01)
123789-HxCDF	ND(0.03)	ND(0.01)	ND(0.01)	ND(0.1)	ND(0.02)	ND(0.01)
Total HxCDF	ND(0.03)	ND(0.01)	ND(0.01)	ND(0.1)	ND(0.02)	ND(0.02)
1234678-HpCDF	0.02	0.05	ND(0.05)	ND(0.02)	ND(0.01)	ND(0.03)
1234789-HpCDF	ND(0.01)	ND(0.04)	ND(0.05)	ND(0.05)	ND(0.02)	ND(0.01)
Total HpCDF	0.03	ND(0.04)	0.08	0.09	ND(0.02)	0.04
OCDF	0.06	ND(0.05)	0.04	0.1	ND(0.03)	0.07

(PCDD and PCDF in Ambient Air)

	Field Blank	Field Blank[b]	Field Blank[b]	Field Blank[b]	Field Blank[b]	Field Blank[b]	Field Blank[b]
Sample Date --	10/18/88	11/17/87	11/29/87	05/03/88	06/20/88	09/24/88	08/07/88
2378-TCDD	ND(0.02)	ND(0.03)	ND(0.05)	ND(0.04)	ND(0.04)	ND(0.04)	ND(0.03)
Total TCDD	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.04)	ND(0.04)	ND(0.04)	ND(0.07)
2378-PeCDD	ND(0.07)	ND(0.05)	ND(0.04)	ND(0.02)	ND(0.06)	ND(0.2)	ND(0.09)
Total PeCDD	ND(0.07)	ND(0.05)	ND(0.04)	ND(0.02)	ND(0.06)	ND(0.2)	ND(0.09)
123478-HxCDD	ND(0.06)	ND(0.04)	ND(0.06)	ND(0.02)	ND(0.05)	ND(0.03)	ND(0.05)
123678-HxCDD	ND(0.06)	ND(0.04)	ND(0.06)	ND(0.02)	ND(0.05)	ND(0.03)	ND(0.05)
123789-HxCDD	ND(0.06)	ND(0.04)	ND(0.06)	ND(0.02)	ND(0.05)	ND(0.03)	ND(0.05)
Total HxCDD	ND(0.06)	ND(0.04)	ND(0.06)	ND(0.02)	ND(0.05)	ND(0.03)	ND(0.05)
2378-HpCDD	ND(0.08)	ND(0.08)	0.04	ND(0.07)	ND(0.08)	ND(0.06)	ND(0.07)
Total HpCDD	ND(0.08)	ND(0.08)	0.07	ND(0.07)	ND(0.08)	ND(0.06)	ND(0.07)
OCDD	0.09	0.1	0.1	0.2	0.1	0.1	0.1
2378-TCDF	0.4				0.6	0.6	
Total TCDF	0.9	ND(0.3)	0.4	0.8	1.3	1.2	1.4
12378-PeCDF	ND(0.03)	ND(0.01)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.05)
23478-PeCDF	ND(0.03)	ND(0.01)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.05)
Total PeCDF	ND(0.03)	ND(0.01)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.05)
123478-HxCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)
123678-HxCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)
234678-HxCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)
123789-HxCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)
Total HxCDF	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.02)	ND(0.02)
1234678-HpCDF	ND(0.04)	ND(0.03)	ND(0.05)	ND(0.04)	ND(0.04)	ND(0.04)	ND(0.04)
1234789-HpCDF	ND(0.04)	ND(0.03)	ND(0.05)	ND(0.04)	ND(0.04)	ND(0.04)	ND(0.02)
Total HpCDF	ND(0.04)	ND(0.03)	ND(0.05)	ND(0.04)	ND(0.04)	ND(0.04)	ND(0.04)
OCDF	ND(0.05)	ND(0.04)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.1)	ND(0.06)

(PCDD and PCDF in Ambient Air)

	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank
Sample Date --	10/06/88	10/18/88	10/30/88	11/23/88	12/17/88	1/22/89
2378-TCDD	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)
Total TCDD	ND(0.04)	ND(0.1)	ND(0.02)	0.06	ND(0.07)	ND(0.02)
2378-PeCDD	ND(0.02)	ND(0.07)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.01)
Total PeCDD	ND(0.1)	ND(0.07)	ND(0.05)	ND(0.1)	ND(0.03)	ND(0.05)
123478-HxCDD	ND(0.03)	ND(0.06)	ND(0.04)	ND(0.01)	ND(0.03)	ND(0.01)
123678-HxCDD	ND(0.03)	ND(0.06)	ND(0.04)	ND(0.01)	ND(0.03)	ND(0.01)
123789-HxCDD	ND(0.03)	ND(0.06)	ND(0.04)	ND(0.01)	ND(0.03)	ND(0.01)
Total HxCDD	ND(0.03)	ND(0.06)	ND(0.1)	ND(0.06)	ND(0.1)	0.04
2378-HpCDD	ND(0.03)	ND(0.08)	0.06	0.03	0.04	0.03
Total HpCDD	0.07	ND(0.08)	0.1	0.06	0.07	0.06
OCDD	0.1	0.09	0.2	0.1	0.2	0.1
2378-TCDF	ND(0.1)	0.4	ND(0.1)	0.3	ND(0.02)	ND(0.04)
Total TCDF	0.2	0.9	ND(0.1)	0.6	0.09	ND(0.1)
12378-PeCDF	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)
23478-PeCDF	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)
Total PeCDF	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.03)	ND(0.04)	0.05
123478-HxCDF	ND(0.05)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
123678-HxCDF	ND(0.05)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
234678-HxCDF	ND(0.05)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
123789-HxCDF	ND(0.05)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)
Total HxCDF	ND(0.05)	ND(0.02)	ND(0.05)	ND(0.02)	0.03	0.04
1234678-HpCDF	ND(0.05)	ND(0.04)	0.03	0.01	ND(0.01)	0.02
1234789-HpCDF	ND(0.03)	ND(0.04)	ND(0.03)	ND(0.01)	ND(0.01)	ND(0.01)
Total HpCDF	ND(0.03)	ND(0.04)	0.06	0.02	ND(0.02)	0.03
OCDF	0.04	ND(0.05)	ND(0.03)	0.02	0.02	0.02

(PCDD and PCDF in Ambient Air)

Sample Date --	Field Blank 02/03/89	Field Blank 02/15/89
2378-TCDD	ND(0.02)	ND(0.02)
Total TCDD	ND(0.02)	ND(0.02)
2378-PeCDD	ND(0.04)	ND(0.01)
Total PeCDD	ND(0.04)	ND(0.08)
123478-HxCDD	ND(0.02)	ND(0.05)
123678-HxCDD	ND(0.02)	ND(0.05)
123789-HxCDD	ND(0.02)	ND(0.05)
Total HxCDD	ND(0.08)	ND(0.3)
2378-HpCDD	0.04	0.03
Total HpCDD	0.09	0.06
OCDD	0.2	0.2
2378-TCDF	ND(0.03)	ND(0.01)
Total TCDF	0.1	0.07
12378-PeCDF	ND(0.02)	ND(0.01)
23478-PeCDF	ND(0.02)	ND(0.01)
Total PeCDF	ND(0.02)	ND(0.06)
123478-HxCDF	ND(0.02)	ND(0.01)
123678-HxCDF	ND(0.02)	ND(0.01)
234678-HxCDF	ND(0.02)	ND(0.01)
123789-HxCDF	ND(0.02)	ND(0.01)
Total HxCDF	ND(0.02)	ND(0.03)
1234678-HpCDF	ND(0.03)	0.01
1234789-HpCDF	ND(0.03)	ND(0.01)
Total HpCDF	0.03	0.02
OCDF	0.02	0.01

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[a] Sample run on both old and new technology.
[b] Field blanks had been stored at ECL Bay St. Louis for reference purposes.

APPENDIX C

Metal Concentrations in Water Samples in Rutland, Vermont

Sample Location and Date of Collection	As	Total Metal Concentration ($\mu g/L$)[a]					
		Be	Cd	Cr	Pb	Hg	Ni
Rutland Reservoir:							
10/13/87	<5	<1.0	<1	4	7	0.2	<5
11/04/87	<5	<1.0	<1	<2	<5	<0.2	<5
06/29/88	<5	<1.0	<1	<2	<5	<0.2	<5
Rocky Pond:							
10/13/87	<5	<1.0	<1	<2	11	<0.2	<5
11/06/87	<5	<1.0	1	<2	<5	<0.2	<5
06/29/88	<5	<1.0	<1	<2	<5	<0.2	<5
Otter/East Creeks:							
10/13/87	<5	<1.0	<1	2	13	<0.2	<5
11/04/87	<5	<1.0	<1	<2	18	<0.2	<5
06/29/88	<5	<1.0	<1	<2	<5	<0.2	<5
Otter Creek/Town Line:							
10/13/87	<5	<1.0	<1	<2	7	<0.2	<5
11/04/87	<5	<1.0	<1	<2	<5	<0.2	<5
06/29/88	<5	<1.0	<1	<2	<5	<0.2	<5
Otter Creek/Rtes. 3,4:							
10/13/87	<5	<1.0	<1	4	9	<0.2	<5
11/04/87	<5	<1.0	<1	<2	<5	<0.2	<5
06/29/88	<5	<1.0	<1	<2	<5	<0.2	<5

Source: Department of Water Resources, State of Vermont

[a] Less than symbol (<) indicates concentration was not detected at the shown analytical detection limit.

Metal Concentrations in Milk Samples in Rutland, Vermont

Sample Location and Date of Collection	Total Metal Concentration (μg/L)[a]						
	As	Be	Cd	Cr	Pb	Hg	Ni
Quarterline:							
10/13/87	ND	<1.0	NQ	6	97	ND	NQ
11/04/87	ND	<1.0	NQ	2	77	ND	NQ
06/29/88	<125	<1.0	<5	<5	<25	<0.2	<50
Rte. 3:							
10/13/87	ND	<1.0	NQ	6	111	ND	NQ
11/04/87	ND	<1.0	NQ	8	<3	ND	NQ
06/29/88	<125	<1	<5	<5	<25	<1.0	<50
Creek Rd.:							
10/13/87	ND	<1.0	NQ	15	145	ND	NQ
11/06/87	ND	<1.0	NQ	<2	49	ND	NQ
06/29/88	<125	<1	<5	<5	<25	<1.0	<50
Rte. 100:							
11/03/87	ND	<1.0	NQ	<2	33	ND	NQ

Source: Department of Water Resources, State of Vermont

[a] Less than symbol (<) indicates concentration was not detected at the shown analytical detection limit.

ND = Concentration not determined due to analytical problems, e.g., interference.

NQ = Determined present but not quantified.

Metal Concentrations in Sediment Samples in Rutland, Vermont

Sample Location and Date of Collection	Total Metal Concentration (mg/kg)[a]						
	As	Be	Cd	Cr	Pb	Hg	Ni
Rutland Reservoir:							
10/13/87	4.4	0.2	<0.3	2.2	13.8	<0.10	3.4
11/04/87	5.0	0.3	<0.5	4.8	13.7	<0.10	4.5
06/29/88	3.5	0.2	<0.5	3.9	14.6	<0.02	7.2
Rocky Pond:							
10/13/87	0.3	0.01	<0.3	<0.1	9.2	<0.10	1.1
11/06/87	0.8	0.1	1.7	<0.5	25.1	<0.10	<0.9
06/29/88	0.7	<0.1	<0.5	<0.9	15.2	<0.02	<2.5
Otter/East Creeks:							
10/13/87	4.0	0.1	<0.3	4.1	8.4	<0.10	4.4
11/04/87	3.7	0.2	<0.5	5.2	8.4	<0.10	3.9
06/29/88	1.5	0.1	<0.5	4.5	6.5	<0.02	5.6
Otter Creek/Town Line:							
10/13/87	4.4	0.2	<0.3	4.9	10.8	<0.10	7.3
11/04/87	2.1	0.2	<0.5	5.1	10.9	<0.10	4.2
06/29/88	2.9	0.1	<0.5	4.7	10.1	0.02	7.7
Otter Creek/Rtes. 3,4:							
10/13/87	3.5	0.1	<0.3	4.2	10.5	<0.10	5.6
11/04/87	3.0	0.2	<0.5	5.8	11.1	<0.10	4.5
06/29/88	3.1	0.1	<0.5	4.1	7.4	<0.02	5.3

Source: Department of Water Resources, State of Vermont

[a] Less than symbol (<) indicates concentration was not detected at the shown analytical detection limit.

Metal Concentrations in Soil Samples in Rutland, Vermont

Sample Location and Date of Collection	Total Metal Concentration (mg/kg)[a]						
	As	Be	Cd	Cr	Pb	Hg	Ni
Quarterline:							
10/13/87	5.8	0.3	<0.5	4.8	10.9	<0.10	4.7
11/04/88	7.8	0.2	<0.5	6.1	9.3	<0.10	4.2
06/29/88	2.2	0.2	<0.5	5.7	11.2	0.03	9.5
Rte. 3:							
10/13/87	3.3	0.1	<0.3	4.4	15.8	<0.10	7.3
11/04/87	2.6	0.2	<0.5	5.6	16.1	<0.10	7.3
06/29/88	3.5	0.2	<0.5	5.5	20.0	0.05	7.6
Creek Rd.:							
10/13/87	5.5	0.2	<0.3	4.5	7.8	<0.10	6.1
11/04/87	3.6	0.2	<0.5	5.7	6.3	<0.10	4.8
06/29/88	4.6	0.2	<0.5	5.5	11.1	0.02	6.3
River St.:							
10/13/87	4.5	0.1	<0.3	6.1	110.0	<0.10	5.4
11/04/87	2.3	0.1	<0.5	5.6	61.7	<0.10	6.6
06/29/88	4.5	0.2	0.8	8.8	246.0	0.06	11.7
Rte. 4:							
10/13/87	5.9	0.2	<0.3	3.4	24.3	<0.10	3.8
11/04/87	3.8	0.2	0.8	4.0	26.6	<0.10	6.6
06/29/88	4.9	0.2	<0.5	4.2	29.8	<0.02	6.0
MWC/Rte. 4:							
10/13/87	7.2	0.1	2.2	84.4	216.0	0.71	143.0
11/04/87	2.8	0.1	0.6	21.5	143.0	<0.10	32.4
06/29/88	5.9	0.2	2.3	77.4	177.0	0.53	87.4
Watkins:							
10/13/87	7.8	0.2	<0.3	4.0	60.4	<0.10	4.8
11/04/87	5.0	0.2	<0.5	5.2	46.5	<0.10	4.0
06/29/88	5.3	0.2	<0.5	4.7	60.1	0.06	7.5
Rte. 133:							
10/13/87	7.5	0.1	<0.3	6.4	14.5	<0.10	13.0

Source: Department of Water Resources, State of Vermont

[a] Less than symbol (<) indicates concentration was not detected at the shown analytical detection limit.

Metal Concentrations in Forage (Grass Hay) Samples in Rutland, Vermont

Sample Location and Date of Collection	Total Metal Concentration (mg/kg)[a]						
	As	Be	Cd	Cr	Pb	Hg	Ni
Rte. 3:							
10/13/87	<0.5	<0.03	<0.1	<1.0	<2.5	<0.05	<2.5
11/4/87	<0.5	<0.03	<0.1	<1.0	<2.5	<0.05	<2.5
Creek Road:							
10/13/87	<0.5	<0.03	<0.1	<1.0	<2.5	<0.05	<2.5
11/4/87	<0.5	<0.03	0.1	<1.0	<2.5	<0.05	<2.5

Source: Department of Water Resources, State of Vermont

[a] Less than symbol (<) indicates concentration was not detected at the shown analytical detection limit.

Metal Concentrations in Produce Samples in Rutland, Vermont

Sample Location and Date of Collection	Total Metal Concentration (mg/kg)[a]						
	As	Be	Cd	Cr	Pb	Hg	Ni
Quarterline (Potato):							
10/13/87	<0.5	<0.1	0.3	<1.0	<2.5	<0.05	<2.5
11/4/87	<0.5	<0.03	0.3	<1.0	<2.5	<0.05	<2.5
Rte. 133, W. Rutland (Carrot):							
10/13/87	<0.5	<0.03	0.1	<1.0	<2.5	<0.05	<2.5

Source: Department of Water Resources, State of Vermont

[a] Less than symbol (<) indicates concentration was not detected at the shown analytiacal detection limit.

APPENDIX D

PCDD and PCDF Concentrations in Sediment Samples in Rutland, Vermont
(pg/g)

	Monitoring Site						
	Rutland Reservoir	Rutland Reservoir	Otter/East Creeks	Otter/East Creeks	Otter Creek/ Town Line	Otter Creek/ Town Line	Rocky Pond
Sample Date --	10/09/87	11/04/87	10/13/87	11/04/87	10/13/87	11/04/87	10/13/87
2378-TCDD	ND(2.21)	1.04	ND(0.528)	ND(0.247)	ND(0.469)	0.224	ND(5.31)
Total TCDD	ND(2.21)	2.79	ND(0.528)	ND(0.233)	ND(0.469)	0.224	17.7
2378-PeCDD	ND(1.43)	ND(1.34)	ND(0.825)	ND(0.361)	ND(0.735)	ND(0.264)	ND(9.31)
Total PeCDD	3.8	4.3	ND(0.825)	ND(0.361)	ND(0.735)	ND(0.264)	ND(9.31)
123478-HxCDD	ND(1.53)	ND(2.19)	ND(0.798)	ND(0.493)	ND(0.83)	ND(0.272)	ND(9.21)
123678-HxCDD	ND(2.12)	2.7	ND(0.823)	ND(0.845)	ND(0.856)	0.509	ND(9.5)
123789-HxCDD	1.76	ND(2.65)	ND(0.667)	ND(0.412)	0.919	0.371	ND(7.69)
Total HxCDD	14.8	12.9	ND(0.756)	0.684	6.25	2.5	ND(8.72)
2378-HpCDD	47.3	52.7	10.7	15.1	39	12	42.9
Total HpCDD	86.7	99.2	18.7	25.6	66.3	20.8	42.9
OCDD	260	282	72.1	94.1	235	94.1	249
2378-TCDF	8.32	10.1	ND(0.312)	0.357	0.574	0.235	20.3
Total TCDF	57.3	56.9	ND(0.2)	1.18	1.51	0.689	127
12378-PeCDF	ND(1.6)	1.8	ND(0.43)	ND(0.258)	ND(0.43)	ND(0.214)	ND(7.34)
23478-PeCDF	3.54	3.1	ND(0.432)	0.26	ND(0.432)	ND(0.215)	ND(7.38)
Total PeCDF	52.3	47.9	0.903	0.288	3.91	1.36	35.9
123478-HxCDF	ND(2.01)	3.95	ND(0.684)	ND(0.423)	0.913	ND(0.242)	ND(7.34)
123678-HxCDF	ND(2.02)	ND(1.57)	ND(0.689)	ND(0.295)	ND(0.497)	ND(0.244)	ND(7.38)
234678-HxCDF	2.11	2.38	ND(0.714)	ND(0.306)	ND(0.502)	ND(0.253)	ND(7.66)
123789-HxCDF	ND(2.29)	ND(1.78)	ND(0.718)	ND(0.334)	ND(0.522)	ND(0.276)	ND(8.37)
Total HxCDF	21.5	19.8	1.69	1.67	11.9	2.89	20.3
1234678-HpCDF	14.7	16.4	2.21	3.16	8.79	2.4	26.2
1234789-HpCDF	ND(1.29)	ND(1.5)	ND(0.251)	ND(0.305)	ND(0.61)	ND(0.232)	ND(8.19)
Total HpCDF	30.3	31.3	6.24	10.6	27.4	8.19	29.5
OCDF	25.4	26.5	4.84	10.6	23.7	7.38	42.1

(Sediment)

Monitoring Site

Sample Date --	Rocky Pond 11/06/87	Otter Creek/ Rtes. 3,4 10/13/87	Otter Creek/ Rtes. 3,4 11/04/87	Otter Creek/ Rtes. 3,4 11/04/87	Method Blank 1987	Method Blank 1987	Method Blank 1987
2378-TCDD	6.38	ND(6.24)	0.295	ND(0.282)	ND(0.126)	ND(0.163)	ND(0.155)
Total TCDD	24.7	ND(6.24)	0.793	ND(0.267)	ND(0.126)	ND(0.163)	ND(0.155)
2378-PeCDD	ND(3.43)	ND(0.29)	ND(0.237)	ND(0.527)	ND(0.135)	ND(0.23)	ND(0.205)
Total PeCDD	10.6	5.21	0.258	ND(0.527)	ND(0.135)	ND(0.23)	ND(0.205)
123478-HxCDD	ND(4.56)	ND(0.35)	ND(0.409)	ND(0.637)	ND(0.16)	ND(0.267)	ND(0.205)
123678-HxCDD	ND(4.7)	0.88	ND(0.452)	ND(0.657)	ND(0.165)	ND(0.275)	ND(0.211)
123789-HxCDD	5.66	ND(0.39)	ND(0.342)	ND(0.532)	ND(0.134)	ND(0.223)	ND(0.171)
Total HxCDD	33.7	2.91	1.72	ND(0.603)	ND(0.151)	ND(0.253)	ND(0.194)
2378-HpCDD	83.6	14.76	15.2	14.8	ND(0.173)	ND(0.22)	ND(0.183)
Total HpCDD	149	25.38	26.9	24.2	ND(0.173)	ND(0.22)	ND(0.183)
OCDD	383	98.64	123	110	0.634	ND(0.188)	2.42
2378-TCDF	24.9	ND(1.41)	0.877	0.584	ND(0.0907)	ND(0.0631)	ND(0.0806)
Total TCDF	167	ND(1.41)	2.63	1.99	ND(0.0593)	ND(0.0631)	ND(0.0806)
12378-PeCDF	8.08	ND(1.14)	0.311	ND(0.313)	ND(0.113)	ND(0.126)	ND(0.139)
23478-PeCDF	ND(12.2)	ND(1.14)	ND(0.213)	ND(0.31[illegible])	ND(0.114)	ND(0.127)	ND(0.139)
Total PeCDF	139	ND(1.14)	4.78	2.78	ND(0.113)	ND(0.126)	ND(0.139)
123478-HxCDF	11.7	ND(0.43)	ND(0.306)	ND(0.309)	ND(0.0999)	ND(0.14)	ND(0.157)
123678-HxCDF	ND(6.55)	ND(0.44)	ND(0.255)	ND(0.311)	ND(0.101)	ND(0.141)	ND(0.158)
234678-HxCDF	7.37	ND(0.45)	ND(0.264)	ND(0.323)	ND(0.104)	ND(0.146)	ND(0.164)
123789-HxCDF	ND(5.06)	ND(0.49)	ND(0.289)	ND(0.353)	ND(0.114)	ND(0.159)	ND(0.179)
Total HxCDF	75.7	3.87	4.05	2.88	ND(0.104)	ND(0.146)	ND(0.164)
1234678-HpCDF	40.6	3.14	3.8	2.91	ND(0.0826)	ND(0.163)	ND(0.142)
1234789-HpCDF	ND(3.48)	ND(0.46)	ND(0.334)	ND(0.461)	ND(0.106)	ND(0.216)	ND(0.182)
Total HpCDF	60.2	9.65	13.1	11.5	ND(0.0928)	ND(0.189)	ND(0.159)
OCDF	57.6	9.63	15.8	13.2	ND(0.224)	ND(4.59)	ND(5.67)

(Sediment)

Monitoring Site

Sample Date --	Method Blank 1988	Rocky Pond 06/29/88	Otter/East Creeks 06/29/88	Otter Creek/ Town Line 06/29/88	Otter Creek/ Rtes. 3,4 06/29/88	Rutland Reservoir 06/30/88
2378-TCDD	ND(0.10)	ND(2.80)	ND(0.13)	ND(0.72)	ND(0.28)	ND(0.87)
Total TCDD	ND(0.10)	4.8	ND(0.13)	ND(0.72)	ND(0.28)	1.59
2378-PeCDD	ND(0.29)	ND(2.60)	ND(1.40)	ND(0.36)	ND(0.20)	ND(0.96)
Total PeCDD	ND(0.29)	ND(22.5)	ND(4.00)	ND(0.52)	ND(7.69)	5
123478-HxCDD	ND(0.07)	ND(3.60)	ND(0.57)	ND(0.86)	ND(1.10)	ND(1.30)
123678-HxCDD	ND(0.06)	ND(3.00)	ND(0.46)	ND(0.70)	ND(0.90)	2.39
123789-HxCDD	ND(0.06)	ND(3.00)	ND(0.47)	ND(0.72)	ND(0.92)	2.77
Total HxCDD	ND(0.06)	ND(9.89)	2	3.31	2.42	20.8
2378-HpCDD	ND(0.23)	52	8.08	23.9	9.73	67.9
Total HpCDD	ND(0.23)	97.9	14	45.9	17.8	140
OCDD	ND(0.35)	249	38.3	283	68.9	431
2378-TCDF	ND(0.06)	12.5	0.18	ND(0.46)	ND(0.29)	11.8
Total TCDF	ND(0.06)	74.3	1.54	4.09	0.824	101
12378-PeCDF	ND(0.15)	ND(4.70)	ND(0.25)	ND(0.18)	ND(0.24)	2.91
23478-PeCDF	ND(0.14)	6.35	ND(0.23)	ND(0.17)	ND(0.22)	4.87
Total PeCDF	ND(0.14)	80.8	0.693	8.83	ND(3.10)	78.9
123478-HxCDF	ND(0.24)	12.2	ND(0.40)	0.807	0.636	7.55
123678-HxCDF	ND(0.23)	ND(4.90)	ND(0.06)	ND(0.20)	ND(0.23)	3.32
234678-HxCDF	ND(0.28)	ND(4.80)	ND(0.07)	ND(0.24)	ND(0.27)	ND(2.90)
123789-HxCDF	ND(0.30)	ND(5.30)	ND(0.07)	ND(0.26)	ND(0.29)	ND(1.60)
Total HxCDF	ND(0.26)	34.7	0.372	5.41	21.8	33.9
1234678-HpCDF	ND(0.23)	37.7	ND(1.50)	ND(4.70)	84.3	34.9
1234789-HpCDF	ND(0.34)	ND(4.10)	ND(0.30)	ND(0.36)	ND(0.50)	ND(2.50)
Total HpCDF	ND(0.28)	53.6	2.04	17.5	154	71.8
OCDF	ND(0.42)	47.5	3.67	24.3	36.6	39

PCDD and PCDF Concentrations in Milk Samples in Rutland, Vermont
(pg/g)

		Monitoring Site					
	Method Blank	Rte. 3	Creek Rd.	Quarterline	Rte. 3	Quarterline	Creek Rd.
Sample Date --	1987	10/09/87	10/09/87	10/13/87	11/04/87	11/04/87	11/06/87
2378-TCDD	ND(0.0407)	ND(0.135)	ND(0.138)	ND(0.142)	ND(0.0445)	ND(0.0503)	ND(0.0745)
Total TCDD	ND(0.0407)	ND(0.135)	ND(0.138)	ND(0.142)	ND(0.0445)	ND(0.0503)	ND(0.0745)
2378-PeCDD	ND(0.0542)	ND(0.142)	ND(0.153)	ND(0.148)	ND(0.0519)	ND(0.0715)	ND(0.095)
Total PeCDD	ND(0.0542)	ND(0.142)	ND(0.153)	ND(0.148)	ND(0.0519)	ND(0.0715)	ND(0.095)
123478-HxCDD	ND(0.0583)	ND(0.188)	ND(0.176)	ND(0.19)	ND(0.0745)	ND(0.0678)	ND(0.107)
123678-HxCDD	ND(0.0601)	ND(0.194)	ND(0.182)	ND(0.196)	ND(0.0769)	ND(0.07)	ND(0.11)
123789-HxCDD	ND(0.0487)	ND(0.157)	ND(0.147)	ND(0.159)	ND(0.0623)	ND(0.0567)	ND(0.0891)
Total HxCDD	ND(0.0552)	ND(0.178)	ND(0.167)	ND(0.18)	ND(0.0706)	ND(0.0642)	ND(0.101)
2378-HpCDD	ND(0.0427)	ND(0.163)	ND(0.201)	ND(0.162)	0.109	0.0803	ND(0.11)
Total HpCDD	ND(0.0427)	ND(0.163)	ND(0.136)	ND(0.162)	0.109	0.0803	ND(0.0896)
OCDD	0.149	3.17	1.76	2.77	ND(0.196)	1.1	1.3
2378-TCDF	ND(0.0215)	ND(0.0596)	ND(0.0706)	ND(0.0686)	ND(0.0233)	ND(0.0235)	ND(0.0364)
Total TCDF	ND(0.0215)	ND(0.0596)	ND(0.0706)	ND(0.0686)	ND(0.0233)	ND(0.0235)	ND(0.0364)
12378-PeCDF	ND(0.041)	ND(0.104)	ND(0.132)	ND(0.133)	ND(0.0623)	ND(0.053)	ND(0.0766)
23478-PeCDF	ND(0.0413)	ND(0.104)	ND(0.133)	ND(0.134)	ND(0.0626)	ND(0.0533)	ND(0.0771)
Total PeCDF	ND(0.0412)	ND(0.104)	ND(0.132)	ND(0.133)	ND(0.0624)	ND(0.0531)	ND(0.0769)
123478-HxCDF	ND(0.0369)	ND(0.0991)	ND(0.126)	ND(0.113)	ND(0.0527)	ND(0.0343)	ND(0.0627)
123678-HxCDF	ND(0.0372)	ND(0.0997)	ND(0.127)	ND(0.114)	ND(0.0531)	ND(0.0345)	ND(0.0631)
234678-HxCDF	ND(0.0385)	ND(0.103)	ND(0.131)	ND(0.118)	ND(0.055)	ND(0.0358)	ND(0.0655)
123789-HxCDF	ND(0.0421)	ND(0.113)	ND(0.144)	ND(0.129)	ND(0.0601)	ND(0.0391)	ND(0.0715)
Total HxCDF	ND(0.0386)	ND(0.104)	ND(0.132)	ND(0.118)	ND(0.0551)	ND(0.0358)	ND(0.0655)
1234678-HpCDF	ND(0.0399)	ND(0.148)	ND(0.113)	ND(0.128)	ND(0.0566)	ND(0.0532)	ND(0.0726)
1234789-HpCDF	ND(0.0513)	ND(0.19)	ND(0.145)	ND(0.165)	ND(0.0727)	ND(0.0683)	ND(0.0933)
Total HpCDF	ND(0.0449)	ND(0.166)	ND(0.127)	ND(0.144)	ND(0.0637)	ND(0.0598)	ND(0.0817)
OCDF	ND(0.0423)	ND(8.88)	ND(5.15)	ND(8.83)	ND(0.0787)	ND(3.46)	ND(3.05)

(Milk)

	Monitoring Site					
	Rte. 100	Rte. 100	Method Blank	Rte. 3	Creek Rd.	Quarterline
Sample Date --	11/03/87	11/03/87	1988	06/29/88	06/29/88	06/30/88
2378-TCDD	ND(0.0383)	ND(0.0574)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.01)
Total TCDD	ND(0.0383)	ND(0.0574)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.01)
2378-PeCDD	ND(0.0507)	ND(0.0563)	ND(0.07)	ND(0.42)	ND(0.93)	ND(0.82)
Total PeCDD	ND(0.0507)	ND(0.0563)	ND(0.07)	ND(0.42)	ND(0.93)	ND(0.82)
123478-HxCDD	ND(0.0587)	ND(0.0988)	ND(0.07)	ND(0.10)	ND(0.12)	ND(0.13)
123678-HxCDD	ND(0.0605)	ND(0.102)	ND(0.06)	ND(0.08)	ND(0.10)	ND(0.11)
123789-HxCDD	ND(0.049)	ND(0.0825)	ND(0.06)	ND(0.08)	ND(0.10)	ND(0.11)
Total HxCDD	ND(0.0556)	ND(0.0936)	ND(0.06)	ND(0.10)	ND(0.10)	ND(0.12)
2378-HpCDD	ND(0.0874)	ND(0.0727)	ND(0.09)	ND(0.07)	ND(0.11)	ND(0.10)
Total HpCDD	ND(0.056)	ND(0.0727)	ND(0.09)	ND(0.18)	ND(0.11)	ND(0.10)
OCDD	ND(0.542)	ND(0.983)	ND(0.10)	ND(0.23)	ND(0.30)	ND(0.18)
2378-TCDF	ND(0.0193)	ND(0.0313)	ND(0.02)	ND(0.02)	ND(0.01)	ND(0.01)
Total TCDF	ND(0.0193)	ND(0.0313)	ND(0.02)	ND(0.02)	ND(0.03)	ND(0.01)
12378-PeCDF	ND(0.0417)	ND(0.0606)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)
23478-PeCDF	ND(0.042)	ND(0.0609)	ND(0.02)	ND(0.01)	ND(0.01)	ND(0.01)
Total PeCDF	ND(0.0419)	ND(0.0607)	ND(0.02)	ND(0.01)	ND(0.06)	ND(0.01)
123478-HxCDF	ND(0.0437)	ND(0.0603)	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.01)
123678-HxCDF	ND(0.044)	ND(0.0607)	ND(0.03)	ND(0.03)	ND(0.01)	ND(0.01)
234678-HxCDF	ND(0.0456)	ND(0.063)	ND(0.03)	ND(0.04)	ND(0.02)	ND(0.02)
123789-HxCDF	ND(0.0498)	ND(0.0688)	ND(0.03)	ND(0.04)	ND(0.02)	ND(0.02)
Total HxCDF	ND(0.0456)	ND(0.063)	ND(0.03)	ND(0.03)	ND(0.02)	ND(0.01)
1234678-HpCDF	ND(0.0452)	ND(0.0582)	ND(0.03)	ND(0.08)	ND(0.03)	ND(0.03)
1234789-HpCDF	ND(0.058)	ND(0.0747)	ND(0.05)	ND(0.12)	ND(0.05)	ND(0.04)
Total HpCDF	ND(0.0508)	ND(0.0654)	ND(0.04)	ND(0.10)	ND(0.07)	ND(0.21)
OCDF	ND(1.06)	ND(3.04)	ND(0.08)	ND(0.05)	ND(0.07)	ND(0.07)

PCDD and PCDF Concentrations in Crop Samples in Rutland, Vermont
(pg/g)

		Monitoring Site			
	Method Blank Crops	Carrot		Potato	
		Rte. 133	Quarterline	Quarterline	Quarterline
Sample Date --		10/09/87	10/09/87	11/04/87	11/04/87
2378-TCDD	ND(0.231)	ND(4.94)	ND(3.86)	ND(3.61)	ND(4.61)
Total TCDD	ND(0.231)	ND(4.94)	ND(3.86)	ND(3.61)	ND(4.61)
2378-PeCDD	ND(0.267)	ND(4.8)	ND(6.81)	ND(3.35)	ND(4.86)
Total PeCDD	ND(0.267)	ND(4.8)	ND(6.81)	ND(3.35)	ND(4.86)
123478-HxCDD	ND(0.264)	ND(6.4)	ND(8.11)	ND(4.99)	ND(5.93)
123678-HxCDD	ND(0.273)	ND(6.61)	ND(8.36)	ND(5.15)	ND(6.12)
123789-HxCDD	ND(0.221)	ND(5.35)	ND(6.78)	ND(4.17)	ND(4.96)
Total HxCDD	ND(0.25)	ND(6.07)	ND(7.68)	ND(4.73)	ND(5.62)
2378-HpCDD	ND(0.259)	ND(4.43)	ND(6.68)	ND(4.74)	ND(4.31)
Total HpCDD	ND(0.259)	6.2	ND(6.68)	ND(4.74)	ND(4.31)
OCDD	0.648	74.8	58.7	60.6	75.3
2378-TCDF	ND(0.0984)	ND(2.82)	ND(1.83)	ND(2)	ND(2.15)
Total TCDF	ND(0.0984)	ND(2.82)	ND(1.83)	ND(4.39)	ND(2.15)
12378-PeCDF	ND(0.23)	ND(4.55)	ND(3.63)	ND(4.49)	ND(3.77)
23478-PeCDF	ND(0.231)	ND(4.58)	ND(3.65)	ND(4.51)	ND(3.79)
Total PeCDF	ND(0.231)	ND(4.56)	ND(3.64)	ND(4.5)	ND(3.78)
123478-HxCDF	ND(0.188)	ND(3.64)	ND(4.52)	ND(2.93)	ND(3.35)
123678-HxCDF	ND(0.189)	ND(3.66)	ND(4.55)	ND(2.95)	ND(3.37)
234678-HxCDF	ND(0.196)	ND(3.8)	ND(4.72)	ND(3.06)	ND(3.5)
123789-HxCDF	ND(0.214)	ND(4.15)	ND(5.15)	ND(3.35)	ND(3.82)
Total HxCDF	ND(0.196)	ND(3.8)	ND(4.72)	ND(3.06)	ND(3.5)
1234678-HpCDF	0.211	ND(4.34)	ND(5.36)	ND(3.04)	ND(3.47)
1234789-HpCDF	ND(0.261)	ND(5.58)	ND(6.89)	ND(3.91)	ND(4.45)
Total HpCDF	0.237	ND(4.88)	ND(6.03)	ND(3.42)	ND(3.9)
OCDF	ND(0.318)	ND(184)	ND(186)	ND(4.51)	ND(6)

PCDD and PCDF Concentrations in Forage Samples in Rutland, Vermont
(pg/g)

	Monitoring Site				
	Method Blank	Rte. 3	Creek Rd.	Creek Rd.	Rte. 3
Sample Date --	1987	10/07/87	10/09/87	11/04/87	11/04/87
2378-TCDD	ND(0.123)	ND(1.56)	ND(2.05)	ND(1.1)	ND(1.82)
Total TCDD	0.191	ND(1.56)	ND(2.05)	ND(1.1)	ND(1.82)
2378-PeCDD	ND(0.263)	ND(2.4)	ND(2.84)	ND(1.4)	ND(2.37)
Total PeCDD	ND(0.263)	ND(2.4)	ND(2.84)	8.01	ND(2.37)
123478-HxCDD	ND(0.344)	ND(3.24)	ND(4.29)	ND(1.97)	ND(4.3)
123678-HxCDD	ND(0.355)	ND(3.34)	ND(5.92)	ND(2.03)	ND(4.44)
123789-HxCDD	ND(0.287)	ND(2.71)	ND(3.59)	ND(1.64)	ND(3.59)
Total HxCDD	ND(0.326)	ND(3.07)	ND(4.07)	20.1	ND(4.07)
2378-HpCDD	ND(0.312)	7.79	149	113	ND(3.91)
Total HpCDD	ND(0.312)	7.79	279	212	ND(3.91)
OCDD	0.823	61	856	550	59
2378-TCDF	ND(0.127)	ND(1.32)	ND(1.31)	ND(1.24)	ND(1.21)
Total TCDF	ND(0.102)	ND(1.32)	ND(1.31)	2.26	2.35
12378-PeCDF	ND(0.182)	ND(1.48)	ND(1.75)	ND(0.929)	ND(2.09)
23478-PeCDF	ND(0.183)	ND(1.49)	ND(1.76)	ND(0.935)	ND(2.1)
Total PeCDF	ND(0.182)	1.89	ND(1.76)	3.1	2.22
123478-HxCDF	ND(0.186)	ND(1.61)	ND(2.58)	ND(1.45)	ND(2.94)
123678-HxCDF	ND(0.187)	ND(1.62)	ND(2.6)	ND(1.46)	ND(2.95)
234678-HxCDF	ND(0.194)	ND(1.68)	ND(2.7)	ND(1.51)	ND(3.06)
123789-HxCDF	ND(0.212)	ND(1.83)	ND(2.95)	ND(1.65)	ND(3.35)
Total HxCDF	ND(0.194)	ND(1.68)	8.25	2.13	ND(3.07)
1234678-HpCDF	ND(0.288)	ND(1.92)	17	11.6	ND(3.13)
1234789-HpCDF	ND(0.371)	ND(2.46)	ND(3.08)	ND(2.23)	ND(4.02)
Total HpCDF	ND(0.324)	ND(2.16)	40.8	25.6	ND(3.52)
OCDF	ND(0.52)	ND(1.74)	38.9	23.3	ND(3.25)

PCDD and PCDF Concentrations in Soil Samples in Rutland, Vermont
(pg/g)

	Monitoring Site						
	Rte. 3	Rte. 3	Quarterline	Watkins	River St.	Rte. 4	Rte. 4
Sample Date --	10/09/87	10/09/87	10/09/87	10/13/87	10/13/87	10/13/87	10/13/87
2378-TCDD	ND(1.22)	ND(0.237)	ND(0.326)	ND(0.434)	ND(0.263)	ND(0.591)	58.5
Total TCDD	ND(0.333)	ND(0.156)	ND(0.326)	ND(0.434)	0.296	0.878	58.5
2378-PeCDD	ND(0.545)	ND(0.275)	ND(0.234)	ND(0.62)	ND(0.427)	ND(0.849)	3.01
Total PeCDD	1.19	0.746	ND(0.234)	ND(0.62)	ND(0.427)	ND(0.849)	28.2
123478-HxCDD	ND(0.608)	ND(0.719)	ND(0.224)	ND(0.474)	ND(0.441)	ND(0.786)	4.2
123678-HxCDD	0.658	ND(0.741)	ND(0.231)	1.23	ND(1.71)	ND(0.811)	55.6
123789-HxCDD	ND(0.508)	0.648	ND(0.187)	ND(0.396)	ND(0.368)	ND(0.657)	14.1
Total HxCDD	4.03	5.09	.922	6.79	6.71	3.94	208
2378-HpCDD	19.1	17.8	2.38	22.3	27.5	11.8	1430
Total HpCDD	33.5	31.3	4.29	36.4	49.6	21.3	2690
OCDD	162	144	15.9	128	184	61.2	4200
2378-TCDF	1.18	0.708	0.258	0.869	0.433	1.58	7.11
Total TCDF	3.75	3.87	1.77	4.32	2.04	6.95	62.1
12378-PeCDF	0.422	ND(0.416)	ND(0.218)	ND(0.449)	ND(0.361)	ND(0.695)	16.7
23478-PeCDF	ND(0.392)	ND(9.419)	ND(0.219)	0.453	0.428	ND(0.699)	5.13
Total PeCDF	13.2	9.86	0.357	3.89	5.32	5.18	35.4
123478-HxCDF	0.786	ND(0.422)	ND(0.247)	0.858	0.894	ND(0.781)	22.1
123678-HxCDF	ND(0.386)	ND(0.425)	ND(0.145)	0.405	ND(0.55)	ND(0.786)	5.71
234678-HxCDF	0.459	ND(0.441)	0.206	0.841	ND(1.08)	ND(0.815)	9.82
123789-HxCDF	ND(0.437)	ND(0.482)	ND(0.164)	ND(0.452)	ND(0.376)	ND(0.891)	3.48
Total HxCDF	8.42	8.06	1.74	10.2	31.9	5.72	289
1234678-HpCDF	4.59	4.98	1.03	8.36	57.4	ND(3.08)	185
1234789-HpCDF	0.391	ND(0.385)	ND(0.18)	ND(0.581)	ND(0.78)	ND(0.598)	12.9
Total HpCDF	12.6	13.4	2.03	19.6	108	2.48	771
OCDF	11.6	12.3	1.78	19.2	32.8	4.2	553

(Soil)

	Monitoring Site			
	Rte. 3	Quarterline	Watkins	River St.
Sample Date --	11/04/87	11/04/87	11/04/87	11/04/87
2378-TCDD	ND(0.384)	ND(0.402)	ND(0.445)	ND(0.498)
Total TCDD	ND(0.384)	ND(0.402)	0.515	ND(0.498)
2378-PeCDD	ND(0.505)	ND(0.314)	ND(0.962)	ND(0.647)
Total PeCDD	ND(0.505)	ND(0.314)	ND(0.962)	ND(0.647)
123478-HxCDD	ND(0.573)	ND(0.395)	ND(0.658)	ND(0.795)
123678-HxCDD	0.65	ND(0.407)	ND(0.679)	0.973
123789-HxCDD	ND(0.479)	ND(0.33)	ND(0.55)	ND(0.664)
Total HxCDD	1.87	ND(0.374)	2.05	2.49
2378-HpCDD	12.9	2.89	12.3	20.9
Total HpCDD	23	2.89	21.3	37.5
OCDD	92.4	17.3	77.6	145
2378-TCDF	0.455	0.26	0.656	ND(0.345)
Total TCDF	1.64	0.804	2.33	0.919
12378-PeCDF	ND(0.373)	ND(0.369)	ND(0.512)	ND(0.34)
23478-PeCDF	ND(0.375)	ND(0.372)	ND(0.515)	0.35
Total PeCDF	2.7	ND(0.37)	1.74	5.36
123478-HxCDF	0.56	ND(0.249)	ND(0.577)	ND(0.705)
123678-HxCDF	ND(0.419)	ND(0.251)	ND(0.557)	ND(0.709)
234678-HxCDF	ND(0.434)	ND(0.26)	ND(0.578)	ND(0.736)
123789-HxCDF	ND(0.474)	ND(0.284)	ND(0.631)	ND(0.804)
Total HxCDF	6.05	ND(0.261)	2.89	12.7
1234678-HpCDF	3.69	1.45	4.84	11.2
1234789-HpCDF	ND(0.357)	ND(0.356)	ND(0.546)	ND(0.692)
Total HpCDF	10.7	1.63	10.7	25.5
OCDF	7.68	8.47	7.94	8.3

(Soil)

Monitoring Site

	River St.	Rte. 4	Rte. 4	Method Blank	Method Blank	Method Blank	Rte. 3
Sample Date --	11/04/87	11/04/87	11/04/87	1987	1987	1987	06/29/88
2378-TCDD	ND(0.419)	ND(0.372)	16.5	ND(0.126)	ND(0.163)	ND(0.155)	0.237
Total TCDD	0.576	0.466	17.3	ND(0.126)	ND(0.163)	ND(0.155)	ND(0.56)
2378-PeCDD	ND(0.612)	ND(0.282)	ND(0.888)	ND(0.135)	ND(0.23)	ND(0.205)	ND(0.61)
Total PeCDD	1.7	1.14	4.69	ND(0.135)	ND(0.23)	ND(0.205)	ND(0.61)
123478-HxCDD	ND(0.636)	ND(0.259)	ND(0.734)	ND(0.16)	ND(0.267)	ND(0.205)	ND(0.99)
123678-HxCDD	ND(0.892)	0.562	12.6	ND(0.165)	ND(0.275)	ND(0.211)	ND(0.81)
123789-HxCDD	ND(0.532)	ND(0.524)	ND(0.613)	ND(0.134)	ND(0.223)	ND(0.171)	ND(0.83)
Total HxCDD	4.48	3.46	50.4	ND(0,151)	ND(0.253)	ND(0.194)	ND(3.0)
2378-HpCDD	19.2	9.33	268	ND(0.173)	ND(0.22)	ND(0.183)	15.8
Total HpCDD	33.5	18.6	511	ND(0.173)	ND(0.22)	ND(0.183)	28
OCDD	139	52.8	2200	0.634	ND(0.188)	2.42	108
2378-TCDF	0.401	1.3	1.73	ND(0.0907)	ND(0.0631)	ND(0.0806)	0.49
Total TCDF	1.47	7.15	6.46	ND(0.0593)	ND(0.0631)	ND(0.0806)	1.75
12378-PeCDF	ND(0.545)	ND(0.476)	0.56	ND(0.113)	ND(0.126)	ND(0.139)	ND(0.61)
23478-PeCDF	ND(0.548)	0.555	1.42	ND(0.114)	ND(0.127)	ND(0.139)	ND(0.55)
Total PeCDF	2.74	5.69	17.7	ND(0.113)	ND(0.126)	ND(0.139)	4.15
123478-HxCDF	0.624	0.821	4.36	ND(0.0999)	ND(0.14)	ND(0.157)	0.799
123678-HxCDF	ND(0.413)	0.419	1.45	ND(0.101)	ND(0.141)	ND(0.158)	ND(0.41)
234678-HxCDF	0.634	0.607	1.97	ND(0.104)	ND(0.146)	ND(0.164)	ND(0.49)
123789-HxCDF	ND(0.469)	ND(0.289)	ND(0.774)	ND(0.114)	ND(0.159)	ND(0.179)	ND(0.53)
Total HxCDF	10.8	6.27	60.6	ND(0.104)	ND(0.146)	ND(0.164)	5.7
1234678-HpCDF	8.75	2.96	42.1	ND(0.0826)	ND(0.163)	ND(0.142)	5.82
1234789-HpCDF	ND(0.474)	0.231	2.92	ND(0.106)	ND(0.216)	ND(0.182)	ND(0.76)
Total HpCDF	21.3	5.94	151	ND(0.0928)	ND(0.189)	ND(0.159)	15.2
OCDF	15.9	4.29	111	ND(0.224)	ND(4.59)	ND(5.67)	12.9

(Soil)

Monitoring Site

Sample Date --	Method Blank 1988	Quarterline 06/29/88	River St. 06/29/88	Rte. 4 06/29/88	Watkins 06/29/88	Rte. 4 06/29/88	Creek Rd. 06/29/88
2378-TCDD	ND(0.10)	ND(0.28)	2.45	45.1	ND(0.17)	ND(0.24)	ND(0.20)
Total TCDD	ND(0.10)	ND(0.28)	2.79	57.3	0.708	1.70	ND(0.20)
2378-PeCDD	ND(0.29)	ND(0.39)	ND(1.50)	ND(3.20)	ND(0.26)	ND(5.50)	ND(0.56)
Total PeCDD	ND(0.29)	ND(0.39)	ND(5.30)	20.9	ND(3.40)	ND(5.49)	ND(1.70)
123478-HxCDD	ND(0.07)	ND(0.92)	3.48	ND(3.50)	ND(0.55)	ND(2.40)	ND(1.40)
123678-HxCDD	ND(0.06)	ND(0.75)	8.48	42.3	0.685	ND(1.90)	ND(1.20)
123789-HxCDD	ND(0.06)	ND(0.77)	ND(1.63)	19.4	0.594	ND(2.00)	ND(1.20)
Total HxCDD	ND(0.06)	ND(0.81)	64.7	247	4.13	2.84	3.01
2378-HpCDD	ND(0.23)	3.33	202	1750	14.2	17.8	16.1
Total HpCDD	ND(0.23)	6.21	399	3470	26.2	40.3	24
OCDD	ND(0.35)	19.7	2120	5900	98.3	115	98
2378-TCDF	ND(0.06)	ND(0.16)	ND(1.60)	7.63	ND(0.57)	1.32	ND(0.21)
Total TCDF	ND(0.06)	4.33	27.7	151	4.08	18.3	10.5
12378-PeCDF	ND(0.15)	ND(0.32)	ND(0.38)	16.5	0.449	0.963	ND(0.75)
23478-PeCDF	ND(0.14)	ND(0.29)	ND(1.60)	4.4	0.262	ND(0.91)	ND(0.36)
Total PeCDF	ND(0.14)	3.8	98.7	221	10.4	47.2	12.6
123478-HxCDF	ND(0.24)	ND(0.74)	10.7	21.3	ND(0.27)	ND(0.32)	3.23
123678-HxCDF	ND(0.23)	ND(0.73)	1.82	ND(4.80)	ND(0.43)	ND(0.32)	ND(0.48)
234678-HxCDF	ND(0.28)	ND(0.87)	ND(1.50)	ND(4.50)	ND(0.55)	ND(0.99)	ND(0.57)
123789-HxCDF	ND(0.30)	ND(0.95)	ND(1.70)	ND(0.98)	ND(0.34)	ND(0.41)	ND(0.62)
Total HxCDF	ND(0.26)	ND(0.81)	114	304	1.73	21	6.08
1234678-HpCDF	ND(0.23)	ND(1.30)	114	235	6.17	7.66	5.13
1234789-HpCDF	ND(0.34)	ND(1.90)	ND(1.10)	18.1	ND(0.33)	ND(0.74)	ND(0.44)
Total HpCDF	ND(0.28)	ND(1.60)	364	1180	14	16.7	6.03
OCDF	ND(0.42)	2.63	270	529	11	11.5	12.7

APPENDIX E

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 01/16/88 Data

```
                ISCST                     (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1     10      16      0      0      0     24      1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02
                                                  0 0
1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
          *** RUTLAND TEST - SLAMS                                               ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                             ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)              ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                     ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                             ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                        ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                     ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                               ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                               ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                               ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                              ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                              ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                 ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                         ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                      ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                    ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)           ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)   ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)           ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)    ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                   ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)               ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)         ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)               ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)             ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                             ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                    ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                    ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                 ISW(31) =   0

NUMBER OF INPUT SOURCES                                             NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                            NGROUP =   0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)                IPERD =   0
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
NUMBER OF X (RANGE) GRID VALUES                          NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                          NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                             NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA           NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                     NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                 TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED         ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                 IMET =   5
ALLOCATED DATA STORAGE                                    LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
        *** RUTLAND TEST - SLAMS                                          ***

             *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                   (METERS/SEC)

                        1.54,   3.09,   5.14,   8.23,  10.80,

                        *** RANGES OF POLAR GRID SYSTEM ***
                                     (METERS)

 200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                       *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                     (DEGREES)

 360.0,      22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
 225.0,     247.5,     270.0,     292.5,     315.0,     337.5,
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
         *** RUTLAND TEST - SLAMS                                    ***


                              * ELEVATION HEIGHTS IN METERS *
                                * FOR THE RECEPTOR GRID *

DIRECTION /                                             RANGE (METERS)
(DEGREES) /       200.0        500.0       1000.0       2000.0       5000.0      10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /   179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
    315.0 /   176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
    292.5 /   167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
    270.0 /   161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
    247.5 /   158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
    225.0 /   164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
    202.5 /   158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
    180.0 /   158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
    157.5 /   158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
    135.0 /   158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
    112.5 /   158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
     90.0 /   161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
     67.5 /   167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
     45.0 /   170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
     22.5 /   182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
    360.0 /   179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
                        *** RUTLAND TEST - SLAMS                                     ***


                                          * ELEVATION HEIGHTS IN METERS *
                                            * FOR THE RECEPTOR GRID *
 DIRECTION /
 (DEGREES) /     50000.0                            RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /    121.92024
     315.0 /     91.44018
     292.5 /    304.80060
     270.0 /    304.80060
     247.5 /    182.88036
     225.0 /    152.40030
     202.5 /    487.68097
     180.0 /    304.80060
     157.5 /    701.04138
     135.0 /    365.76071
     112.5 /    457.20090
      90.0 /    304.80060
      67.5 /    304.80060
      45.0 /    304.80060
      22.5 /    609.60120
     360.0 /    518.16101
```

```
                                        APPENDIX G (cont.)
                                         (SLAMS 01/16/88)

                    *** RUTLAND TEST - SLAMS                                          ***

                                         *** SOURCE DATA ***

                     EMISSION RATE                                                          
                        TYPE=0,1                                       TEMP.     EXIT VEL.
           T W        (GRAMS/SEC)                                      TYPE=0     TYPE=0
           Y A NUMBER    TYPE=2                                       (DEG.K);   (M/SEC);              BLDG.     BLDG.     BLDG.
  SOURCE   P K  PART.  (GRAMS/SEC)       X         Y        BASE      VERT.DIM   HORZ.DIM  DIAMETER   HEIGHT    LENGTH     WIDTH
  NUMBER   E E  CATS. *PER METER**2  (METERS)  (METERS)    ELEV.    HEIGHT    TYPE=1     TYPE=1,2   TYPE=0    TYPE=0    TYPE=0    TYPE=0
                                                         (METERS)  (METERS)  (METERS)   (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

       1   0 0    0   0.10000E+01      0.0       0.0     169.0     50.30    327.60      15.24      1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

DAY 16

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 16 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	50.0	1.00	367.0	263.0	0.0350	6	0.3000	0.000000E+00
2	36.0	1.00	367.0	261.0	0.0350	6	0.3000	0.000000E+00
3	49.0	1.00	367.0	260.0	0.0350	6	0.3000	0.000000E+00
4	40.0	1.00	367.0	260.0	0.0350	6	0.3000	0.000000E+00
5	42.0	1.00	367.0	259.0	0.0350	6	0.3000	0.000000E+00
6	64.0	1.00	367.0	259.0	0.0350	6	0.3000	0.000000E+00
7	80.0	1.00	367.0	259.0	0.0350	6	0.3000	0.000000E+00
8	52.0	1.00	387.0	260.0	0.0350	6	0.3000	0.000000E+00
9	110.0	1.00	424.0	263.0	0.0200	5	0.3000	0.000000E+00
10	30.0	1.00	461.0	266.0	0.0000	4	0.2500	0.000000E+00
11	41.0	1.00	497.0	269.0	0.0000	3	0.2000	0.000000E+00
12	21.0	1.00	534.0	273.0	0.0000	2	0.1500	0.000000E+00
13	79.0	1.00	571.0	273.0	0.0000	2	0.1500	0.000000E+00
14	56.0	1.00	608.0	275.0	0.0000	2	0.1500	0.000000E+00
15	59.0	1.50	608.0	276.0	0.0000	3	0.2000	0.000000E+00
16	21.0	1.00	608.0	275.0	0.0000	3	0.2000	0.000000E+00
17	284.0	1.00	603.0	273.0	0.0000	4	0.2500	0.000000E+00
18	90.0	1.00	562.0	271.0	0.0200	5	0.3000	0.000000E+00
19	79.0	1.00	530.0	271.0	0.0350	6	0.3000	0.000000E+00
20	64.0	1.00	498.0	270.0	0.0350	6	0.3000	0.000000E+00
21	198.0	1.00	466.0	269.0	0.0350	6	0.3000	0.000000E+00
22	198.0	1.00	433.0	268.0	0.0350	6	0.3000	0.000000E+00
23	220.0	1.50	401.0	268.0	0.0350	6	0.3000	0.000000E+00
24	219.0	1.50	369.0	268.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                                     DAILY:  16
                                          APPENDIX G (cont.)
                                          (SLAMS 01/16/88)
                                                                                                     24-HR/PD  1

                                                                                                     SGROUP#   1

                        *** RUTLAND TEST - SLAMS                                              ***

                        * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)        *
                                    * ENDING WITH HOUR 24 FOR DAY  16 *
                                         * FROM ALL SOURCES *
                                       * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      2.00448 AND OCCURRED AT (     500.0,      45.0) *

                                                               RANGE (METERS)
 DIRECTION /
 (DEGREES) /     200.0      500.0      1000.0     2000.0     5000.0     10000.0    20000.0    30000.0    40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /     0.00255    0.00419    0.00065    0.00005    0.00000    0.00000    0.00000    0.00000    0.00000
    315.0 /     0.00009    0.00032    0.00005    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    292.5 /     0.01291    0.35670    0.23976    0.07101    0.01434    0.00383    0.00056    0.00010    0.00002
    270.0 /     0.00282    0.11116    0.06871    0.01712    0.00129    0.00007    0.00000    0.00000    0.00000
    247.5 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    225.0 /     0.00002    0.06226    0.32767    0.38084    0.07729    0.01696    0.00194    0.00031    0.00006
    202.5 /     0.00001    0.18789    0.87465    0.76326    0.19641    0.05950    0.01254    0.00366    0.00121
    180.0 /     0.00000    0.00244    0.00185    0.00056    0.00000    0.00000    0.00000    0.00000    0.00000
    157.5 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    135.0 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    112.5 /     0.01365    0.05633    0.24404    0.25006    0.15080    0.06255    0.02427    0.01298    0.00788
     90.0 /     0.18647    0.33908    0.43588    0.51078    0.19628    0.08725    0.04031    0.02580    0.01889
     67.5 /     0.67860    1.02068    1.02042    0.86285    0.29440    0.10882    0.03270    0.01331    0.00613
     45.0 /     0.70932    2.00448    1.62135    1.28415    0.45380    0.13984    0.03730    0.01607    0.00863
     22.5 /     1.00871    1.61432    0.59571    0.21392    0.07548    0.04182    0.02514    0.01951    0.01649
    360.0 /     0.25142    0.31207    0.08278    0.02122    0.00394    0.00061    0.00003    0.00000    0.00000
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
                                                                                DAILY:  16

                                                                                24-HR/PD  1

                                                                                SGROUP#   1

                  *** RUTLAND TEST - SLAMS                                ***

                  * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                              * ENDING WITH HOUR 24 FOR DAY  16 *
                                    * FROM ALL SOURCES *
                                  * FOR THE RECEPTOR GRID *

               * MAXIMUM VALUE EQUALS      2.00448 AND OCCURRED AT (     500.0,      45.0) *

 DIRECTION /                                 RANGE (METERS)
 (DEGREES) /      50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /       0.00000
    315.0 /       0.00000
    292.5 /       0.00000
    270.0 /       0.00000
    247.5 /       0.00000
    225.0 /       0.00001
    202.5 /       0.00043
    180.0 /       0.00000
    157.5 /       0.00000
    135.0 /       0.00000
    112.5 /       0.00512
     90.0 /       0.01490
     67.5 /       0.00303
     45.0 /       0.00527
     22.5 /       0.01451
    360.0 /       0.00000
```

APPENDIX G

ISCST Modeling Results for Discrete Receptors Using SLAMS 01/16/88 Data

```
               ISCST                    (DATED 88348)
1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1       0       0      4      0      0     24      1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                             0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
                  *** RUTLAND TEST - SLAMS                                        ***

  CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                ISW(1) =   1
  RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                 ISW(2) =   2
  DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                        ISW(3) =   1
  TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                ISW(4) =   1
  CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                           ISW(5) =   0
  LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                        ISW(6) =   2

  COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
  WITH THE FOLLOWING TIME PERIODS:
    HOURLY (YES=1,NO=0)                                                   ISW(7) =   0
    2-HOUR (YES=1,NO=0)                                                   ISW(8) =   0
    3-HOUR (YES=1,NO=0)                                                   ISW(9) =   0
    4-HOUR (YES=1,NO=0)                                                  ISW(10) =   0
    6-HOUR (YES=1,NO=0)                                                  ISW(11) =   0
    8-HOUR (YES=1,NO=0)                                                  ISW(12) =   0
   12-HOUR (YES=1,NO=0)                                                  ISW(13) =   0
   24-HOUR (YES=1,NO=0)                                                  ISW(14) =   1
  PRINT 'N'-DAY TABLE(S)  (YES=1,NO=0)                                   ISW(15) =   0

  PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
  SPECIFIED BY ISW(7) THROUGH ISW(14):
    DAILY TABLES (YES=1,NO=0)                                            ISW(16) =   1
    HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                         ISW(17) =   0
    MAXIMUM 50 TABLES (YES=1,NO=0)                                       ISW(18) =   0
  METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)              ISW(19) =   2
  RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)      ISW(20) =   3
  WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)              ISW(21) =   1
  VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)       ISW(22) =   1
  SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                      ISW(23) =   0
  PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                  ISW(24) =   1
  PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)            ISW(25) =   2
  PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                  ISW(26) =   1
  CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                ISW(27) =   2
  REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                ISW(28) =   2
  TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                       ISW(29) =   2
  DEBUG OPTION CHOSEN (YES=1,NO=2)                                       ISW(30) =   1
  ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                    ISW(31) =   0

  NUMBER OF INPUT SOURCES                                                NSOURC =   1
  NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                               NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)         IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                              NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                              NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                 NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA               NHOURS =   24
NUMBER OF DAYS OF METEOROLOGICAL DATA                         NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                     TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED             ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                     IMET =    5
ALLOCATED DATA STORAGE                                        LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                    MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
*** RUTLAND TEST - SLAMS                                                   ***

    *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                 (METERS/SEC)

                  1.54,   3.09,   5.14,   8.23,  10.80,

              *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                   (METERS)

 (   1786.0,  29952.0), (   2333.0,  29357.0), (   2666.0,  30119.0), (    714.0,  29583.0), (
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

```
          *** RUTLAND TEST - SLAMS                                   ***


                           * ELEVATION HEIGHTS IN METERS *
                         * FOR THE DISCRETE RECEPTOR POINTS *
 - X -      - Y -       ELE.           - X -     - Y -      ELE.            - X -     - Y -      ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 1786.0    29952.0    185.92836        2333.0    29357.0    161.54431       2666.0    30119.0    172.21234
  714.0    29583.0    166.11633
```

```
                                        APPENDIX G (cont.)
                                        (SLAMS 01/16/88)


                      *** RUTLAND TEST - SLAMS                                          ***

                                             *** SOURCE DATA ***

                   EMISSION RATE                                            TEMP.    EXIT VEL.
                      TYPE=0,1                                              TYPE=0    TYPE=0
          T W       (GRAMS/SEC)                                            (DEG.K);  (M/SEC);            BLDG.     BLDG.     BLDG.
          Y A NUMBER   TYPE=2                              BASE            VERT.DIM  HORZ.DIM DIAMETER  HEIGHT    LENGTH    WIDTH
  SOURCE  P K  PART.  (GRAMS/SEC)      X          Y        ELEV.    HEIGHT  TYPE=1   TYPE=1,2  TYPE=0    TYPE=0    TYPE=0    TYPE=0
  NUMBER  E E  CATS. *PER METER**2 (METERS)  (METERS)  (METERS) (METERS) (METERS)  (METERS) (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

       1  0 0    0   0.10000E+01   1700.0    29700.0    169.0     50.30   327.60     15.24     1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 01/16/88)

*** RUTLAND TEST - SLAMS ***

MET. DATA
DAY 16

* METEOROLOGICAL DATA FOR DAY 16 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	50.0	1.00	367.0	263.0	0.0350	6	0.3000	0.000000E+00
2	36.0	1.00	367.0	261.0	0.0350	6	0.3000	0.000000E+00
3	49.0	1.00	367.0	260.0	0.0350	6	0.3000	0.000000E+00
4	40.0	1.00	367.0	260.0	0.0350	6	0.3000	0.000000E+00
5	42.0	1.00	367.0	259.0	0.0350	6	0.3000	0.000000E+00
6	64.0	1.00	367.0	259.0	0.0350	6	0.3000	0.000000E+00
7	80.0	1.00	367.0	259.0	0.0350	6	0.3000	0.000000E+00
8	52.0	1.00	387.0	260.0	0.0350	6	0.3000	0.000000E+00
9	110.0	1.00	424.0	263.0	0.0200	5	0.3000	0.000000E+00
10	30.0	1.00	461.0	266.0	0.0000	4	0.2500	0.000000E+00
11	41.0	1.00	497.0	269.0	0.0000	3	0.2000	0.000000E+00
12	21.0	1.00	534.0	273.0	0.0000	2	0.1500	0.000000E+00
13	79.0	1.00	571.0	273.0	0.0000	2	0.1500	0.000000E+00
14	56.0	1.00	608.0	275.0	0.0000	2	0.1500	0.000000E+00
15	59.0	1.50	608.0	276.0	0.0000	3	0.2000	0.000000E+00
16	21.0	1.00	608.0	275.0	0.0000	3	0.2000	0.000000E+00
17	284.0	1.00	603.0	273.0	0.0000	4	0.2500	0.000000E+00
18	90.0	1.00	562.0	271.0	0.0200	5	0.3000	0.000000E+00
19	79.0	1.00	530.0	271.0	0.0350	6	0.3000	0.000000E+00
20	64.0	1.00	498.0	270.0	0.0350	6	0.3000	0.000000E+00
21	198.0	1.00	466.0	269.0	0.0350	6	0.3000	0.000000E+00
22	198.0	1.00	433.0	268.0	0.0350	6	0.3000	0.000000E+00
23	220.0	1.50	401.0	268.0	0.0350	6	0.3000	0.000000E+00
24	219.0	1.50	369.0	268.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                        DAILY:  16

                                                                                        24-HR/PD  1

                                                                                        SGROUP#   1
                         *** RUTLAND TEST - SLAMS                                    ***

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)    *
                                      * ENDING WITH HOUR 24 FOR DAY  16 *
                                           * FROM ALL SOURCES *
                                     * FOR THE DISCRETE RECEPTOR POINTS *
  - X -      - Y -         CON.          - X -      - Y -         CON.          - X -      - Y -         CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0     1.54806         2333.0    29357.0      0.04126          2666.0    30119.0      1.06826
   714.0    29583.0     0.00845
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 01/28/88 Data

```
                 ISCST                         (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1     10      16      0       0     0    24      1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02                                      0 0
 1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
              *** RUTLAND TEST - SLAMS                                                ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                              ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)               ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                      ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                              ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                         ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                      ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                 ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                 ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                 ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                               ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                               ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                  ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                          ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                       ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                     ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)            ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)    ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)            ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)     ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                    ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)          ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)              ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                              ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                     ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                     ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                  ISW(31) =   0

NUMBER OF INPUT SOURCES                                              NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                             NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)              IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                   NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                                   NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                      NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                    NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                              NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                          TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                  ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                          IMET =   5
ALLOCATED DATA STORAGE                                             LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                         MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
*** RUTLAND TEST - SLAMS                                          ***

     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                               (METERS/SEC)

                  1.54,   3.09,   5.14,   8.23,  10.80,

                  *** RANGES OF POLAR GRID SYSTEM ***
                               (METERS)

  200.0,    500.0,   1000.0,   2000.0,   5000.0,  10000.0,  20000.0,  30000.0,  40000.0,  50000.0,


               *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                              (DEGREES)

  360.0,     22.5,     45.0,     67.5,     90.0,    112.5,    135.0,    157.5,    180.0,    202.5,
  225.0,    247.5,    270.0,    292.5,    315.0,    337.5,
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
          *** RUTLAND TEST - SLAMS                                        ***


                                    * ELEVATION HEIGHTS IN METERS *
                                      * FOR THE RECEPTOR GRID *
DIRECTION /
(DEGREES) /                                                RANGE (METERS)
                200.0        500.0       1000.0       2000.0       5000.0      10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   337.5 /    179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
   315.0 /    176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
   292.5 /    167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
   270.0 /    161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
   247.5 /    158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
   225.0 /    164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
   202.5 /    158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
   180.0 /    158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
   157.5 /    158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
   135.0 /    158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
   112.5 /    158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
    90.0 /    161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
    67.5 /    167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
    45.0 /    170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
    22.5 /    182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
   360.0 /    179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
*** RUTLAND TEST - SLAMS                                          ***


                       * ELEVATION HEIGHTS IN METERS *
                         * FOR THE RECEPTOR GRID *

DIRECTION /                              RANGE (METERS)
(DEGREES) /    50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   337.5 /   121.92024
   315.0 /    91.44018
   292.5 /   304.80060
   270.0 /   304.80060
   247.5 /   182.88036
   225.0 /   152.40030
   202.5 /   487.68097
   180.0 /   304.80060
   157.5 /   701.04138
   135.0 /   365.76071
   112.5 /   457.20090
    90.0 /   304.80060
    67.5 /   304.80060
    45.0 /   304.80060
    22.5 /   609.60120
   360.0 /   518.16101
```

```
                                              APPENDIX G (cont.)
                                              (SLAMS 01/28/88)


                        *** RUTLAND TEST - SLAMS                                                         ***

                                                      *** SOURCE DATA ***

                       EMISSION RATE
                          TYPE=0,1                                                  TEMP.    EXIT VEL.
         T W            (GRAMS/SEC)                                                 TYPE=0     TYPE=0
         Y A  NUMBER      TYPE=2                                                  (DEG.K);   (M/SEC);                 BLDG.      BLDG.      BLDG.
 SOURCE  P K   PART.    (GRAMS/SEC)        X         Y        BASE                VERT.DIM   HORZ.DIM  DIAMETER    HEIGHT     LENGTH     WIDTH
 NUMBER  E E   CATS.  *PER METER**2    (METERS)  (METERS)    ELEV.     HEIGHT      TYPE=1    TYPE=1,2    TYPE=0     TYPE=0     TYPE=0     TYPE=0
                                                            (METERS)  (METERS)   (METERS)   (METERS)   (METERS)   (METERS)   (METERS)   (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1  0 0     0    0.10000E+01       0.0       0.0     169.0      50.30     327.60      15.24       1.04      10.97      73.20      48.80
```

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 28 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	228.0	1.00	80.0	254.0	0.0350	6	0.3000	0.000000E+00
2	178.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
3	59.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
4	55.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
5	101.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
6	137.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
7	78.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
8	70.0	1.50	113.0	254.0	0.0200	5	0.3000	0.000000E+00
9	71.0	1.00	160.0	258.0	0.0000	4	0.2500	0.000000E+00
10	72.0	1.00	208.0	261.0	0.0000	3	0.2000	0.000000E+00
11	49.0	1.00	255.0	264.0	0.0000	2	0.1500	0.000000E+00
12	55.0	1.50	303.0	266.0	0.0000	2	0.1500	0.000000E+00
13	28.0	1.00	350.0	268.0	0.0000	2	0.1500	0.000000E+00
14	112.0	2.60	398.0	268.0	0.0000	3	0.2000	0.000000E+00
15	74.0	3.10	398.0	268.0	0.0000	3	0.2000	0.000000E+00
16	74.0	2.60	398.0	268.0	0.0000	4	0.2500	0.000000E+00
17	56.0	2.10	391.0	266.0	0.0200	5	0.3000	0.000000E+00
18	32.0	2.10	343.0	265.0	0.0200	5	0.3000	0.000000E+00
19	15.0	2.10	295.0	265.0	0.0200	5	0.3000	0.000000E+00
20	7.0	1.00	248.0	264.0	0.0350	6	0.3000	0.000000E+00
21	22.0	1.00	200.0	263.0	0.0350	6	0.3000	0.000000E+00
22	26.0	1.00	152.0	261.0	0.0350	6	0.3000	0.000000E+00
23	47.0	1.50	105.0	261.0	0.0350	6	0.3000	0.000000E+00
24	19.0	1.50	57.0	261.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
                                                                                                    DAILY:  28
                                                                                                    24-HR/PD  1
                                                                                                    SGROUP#   1
                         *** RUTLAND TEST - SLAMS                                            ***

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                     * ENDING WITH HOUR 24 FOR DAY  28 *
                                          * FROM ALL SOURCES *
                                         * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      1.81886 AND OCCURRED AT (      500.0,      22.5) *

 DIRECTION /                                                   RANGE (METERS)
 (DEGREES) /      200.0        500.0        1000.0       2000.0       5000.0       10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    315.0 /      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    292.5 /      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    270.0 /      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    247.5 /      0.00000      0.00010      0.00031      0.00006      0.00000      0.00000      0.00000      0.00000      0.00000
    225.0 /      0.00002      0.03926      0.28520      0.43959      0.12537      0.04608      0.01384      0.00552      0.00271
    202.5 /      0.00000      0.00001      0.00001      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    180.0 /      0.00000      0.15817      0.30991      0.49122      0.15338      0.06307      0.02437      0.01302      0.00790
    157.5 /      0.00000      0.00027      0.00022      0.00003      0.00000      0.00000      0.00000      0.00000      0.00000
    135.0 /      0.02407      0.06197      0.23046      0.27678      0.15134      0.06307      0.02437      0.01302      0.00790
    112.5 /      0.21034      0.25554      0.12845      0.05484      0.02010      0.01186      0.00793      0.00635      0.00545
     90.0 /      0.17358      0.33721      0.21352      0.09007      0.00848      0.00055      0.00001      0.00000      0.00000
     67.5 /      0.81635      1.60159      1.45968      0.94209      0.33733      0.15021      0.06094      0.03191      0.01840
     45.0 /      0.70926      1.05012      0.68996      0.47842      0.19150      0.08679      0.03955      0.02441      0.01702
     22.5 /      0.53731      1.81886      1.22911      0.99195      0.41451      0.16376      0.06475      0.03770      0.02583
    360.0 /      0.07683      0.47080      0.56987      0.19001      0.02916      0.00343      0.00015      0.00001      0.00000
```

```
                                                                                    DAILY:  28
                                                                                    24-HR/PD  1
                     *** RUTLAND TEST - SLAMS                                       SGROUP#   1
                                                                  ***

                     * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                  * ENDING WITH HOUR 24 FOR DAY  28 *
                                         * FROM ALL SOURCES *
                                       * FOR THE RECEPTOR GRID *

                  * MAXIMUM VALUE EQUALS      1.81886 AND OCCURRED AT (     500.0,      22.5) *
DIRECTION /
(DEGREES) /      50000.0                             RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   337.5 /      0.00000
   315.0 /      0.00000
   292.5 /      0.00000
   270.0 /      0.00000
   247.5 /      0.00000
   225.0 /      0.00134
   202.5 /      0.00000
   180.0 /      0.00513
   157.5 /      0.00000
   135.0 /      0.00513
   112.5 /      0.00484
    90.0 /      0.00000
    67.5 /      0.01117
    45.0 /      0.01268
    22.5 /      0.01937
   360.0 /      0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 01/28/88 Data

```
                    ISCST               (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0
    1     0     0     4     0     0    24     1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                   0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
            *** RUTLAND TEST - SLAMS                                               ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                  ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                   ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                          ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                  ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                             ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                          ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                     ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                     ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                     ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                    ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                    ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                    ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                   ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                   ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                      ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                              ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                           ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                         ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)        ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)         ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                        ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                    ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)              ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                    ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                  ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                  ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                         ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                         ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                      ISW(31) =   0

NUMBER OF INPUT SOURCES                                                   NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                  NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)            IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                                 NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                                 NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                    NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                  NHOURS =   24
NUMBER OF DAYS OF METEOROLOGICAL DATA                            NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                        TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                ZR =   10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                        IMET =    5
ALLOCATED DATA STORAGE                                           LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                       MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
                    *** RUTLAND TEST - SLAMS                                             ***

                      *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                 (METERS/SEC)

                                   1.54,   3.09,   5.14,   8.23,  10.80,

                                 *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                   (METERS)

(   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
              *** RUTLAND TEST - SLAMS                                            ***


                                   * ELEVATION HEIGHTS IN METERS *
                                 * FOR THE DISCRETE RECEPTOR POINTS *
   - X -      - Y -        ELE.             - X -      - Y -       ELE.              - X -      - Y -       ELE.
-----------------------------------------------------------------------------------------------------------------------

  1786.0    29952.0     185.92836          2333.0    29357.0     161.54431          2666.0    30119.0     172.21234
   714.0    29583.0     166.11633
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

```
                            *** RUTLAND TEST - SLAMS                                              ***

                                                   *** SOURCE DATA ***

                     EMISSION RATE                                        TEMP.     EXIT VEL.
                       TYPE=0,1                                          TYPE=0     TYPE=0
        T W          (GRAMS/SEC)                                        (DEG.K);   (M/SEC);              BLDG.      BLDG.      BLDG.
        Y A NUMBER     TYPE=2                              BASE          VERT.DIM  HORZ.DIM DIAMETER   HEIGHT     LENGTH      WIDTH
 SOURCE P K  PART.   (GRAMS/SEC)       X          Y        ELEV.    HEIGHT  TYPE=1   TYPE=1,2  TYPE=0    TYPE=0     TYPE=0     TYPE=0
 NUMBER E E  CATS.  *PER METER**2  (METERS)  (METERS)  (METERS)  (METERS) (METERS)  (METERS) (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1 0 0     0   0.10000E+01    1700.0    29700.0    169.0     50.30   327.60     15.24     1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 01/28/88)

MET. DATA
DAY 28

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 28 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	228.0	1.00	80.0	254.0	0.0350	6	0.3000	0.000000E+00
2	178.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
3	59.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
4	55.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
5	101.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
6	137.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
7	78.0	1.00	80.0	253.0	0.0350	6	0.3000	0.000000E+00
8	70.0	1.50	113.0	254.0	0.0200	5	0.3000	0.000000E+00
9	71.0	1.00	160.0	258.0	0.0000	4	0.2500	0.000000E+00
10	72.0	1.00	208.0	261.0	0.0000	3	0.2000	0.000000E+00
11	49.0	1.00	255.0	264.0	0.0000	2	0.1500	0.000000E+00
12	55.0	1.50	303.0	266.0	0.0000	2	0.1500	0.000000E+00
13	28.0	1.00	350.0	268.0	0.0000	2	0.1500	0.000000E+00
14	112.0	2.60	398.0	268.0	0.0000	3	0.2000	0.000000E+00
15	74.0	3.10	398.0	268.0	0.0000	3	0.2000	0.000000E+00
16	74.0	2.60	398.0	268.0	0.0000	4	0.2500	0.000000E+00
17	56.0	2.10	391.0	266.0	0.0200	5	0.3000	0.000000E+00
18	32.0	2.10	343.0	265.0	0.0200	5	0.3000	0.000000E+00
19	15.0	2.10	295.0	265.0	0.0200	5	0.3000	0.000000E+00
20	7.0	1.00	248.0	264.0	0.0350	6	0.3000	0.000000E+00
21	22.0	1.00	200.0	263.0	0.0350	6	0.3000	0.000000E+00
22	26.0	1.00	152.0	261.0	0.0350	6	0.3000	0.000000E+00
23	47.0	1.50	105.0	261.0	0.0350	6	0.3000	0.000000E+00
24	19.0	1.50	57.0	261.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                              DAILY:  28

                                                                                              24-HR/PD  1

                                                                                              SGROUP#   1

                             *** RUTLAND TEST - SLAMS                                        ***

                             * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                          * ENDING WITH HOUR 24 FOR DAY  28 *
                                                * FROM ALL SOURCES *
                                         * FOR THE DISCRETE RECEPTOR POINTS *

   - X -      - Y -        CON.           - X -      - Y -       CON.           - X -      - Y -       CON.
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0      0.75100          2333.0    29357.0     0.13298          2666.0    30119.0     1.42959
   714.0    29583.0      0.00000
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 02/21/88 Data

```
                   ISCST                (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1   10    16      0        0        0     24       1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02                                      0 0
 1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
          *** RUTLAND TEST - SLAMS                                                          ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                        ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                         ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                                ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                        ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                                   ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                                ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                           ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                           ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                           ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                          ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                          ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                          ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                         ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                         ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                            ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                                    ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                                 ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                               ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                      ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)              ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                      ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)               ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                              ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                          ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)                     ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                          ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                        ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                        ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                               ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                               ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                            ISW(31) =   0

NUMBER OF INPUT SOURCES                                                         NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                        NGROUP =   0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)                            IPERD =   0
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
NUMBER OF X (RANGE) GRID VALUES                                   NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                                   NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                      NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                    NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                              NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                          TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED.                 ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                          IMET =   5
ALLOCATED DATA STORAGE                                             LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                         MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
*** RUTLAND TEST - SLAMS                                         ***

     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                               (METERS/SEC)

                       1.54,   3.09,   5.14,   8.23,  10.80,

                       *** RANGES OF POLAR GRID SYSTEM ***
                                  (METERS)

200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                    *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                 (DEGREES)

360.0,      22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
225.0,     247.5,     270.0,     292.5,     315.0,     337.5,
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
               *** RUTLAND TEST - SLAMS                                          ***


                                        * ELEVATION HEIGHTS IN METERS *
                                           * FOR THE RECEPTOR GRID *

 DIRECTION /                                               RANGE (METERS)
 (DEGREES) /       200.0        500.0       1000.0       2000.0       5000.0       10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /     179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
     315.0 /     176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
     292.5 /     167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
     270.0 /     161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
     247.5 /     158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
     225.0 /     164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
     202.5 /     158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
     180.0 /     158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
     157.5 /     158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
     135.0 /     158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
     112.5 /     158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
      90.0 /     161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
      67.5 /     167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
      45.0 /     170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
      22.5 /     182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
     360.0 /     179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
                    *** RUTLAND TEST - SLAMS                                   ***


                                   * ELEVATION HEIGHTS IN METERS *
                                     * FOR THE RECEPTOR GRID *
DIRECTION /                                         RANGE (METERS)
(DEGREES) /      50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /    121.92024
    315.0 /     91.44018
    292.5 /    304.80060
    270.0 /    304.80060
    247.5 /    182.88036
    225.0 /    152.40030
    202.5 /    487.68097
    180.0 /    304.80060
    157.5 /    701.04138
    135.0 /    365.76071
    112.5 /    457.20090
     90.0 /    304.80060
     67.5 /    304.80060
     45.0 /    304.80060
     22.5 /    609.60120
    360.0 /    518.16101
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
                  *** RUTLAND TEST - SLAMS                                                 ***

                                              *** SOURCE DATA ***

                   EMISSION RATE                                                TEMP.    EXIT VEL.
                      TYPE=0,1                                                 TYPE=0    TYPE=0
          T W       (GRAMS/SEC)                                               (DEG.K);  (M/SEC);                BLDG.     BLDG.     BLDG.
          Y A NUMBER   TYPE=2                                   BASE          VERT.DIM  HORZ.DIM DIAMETER  HEIGHT    LENGTH    WIDTH
  SOURCE  P K  PART.  (GRAMS/SEC)       X         Y           ELEV.   HEIGHT   TYPE=1   TYPE=1,2  TYPE=0   TYPE=0    TYPE=0    TYPE=0
  NUMBER  E E  CATS. *PER METER**2 (METERS)  (METERS)  (METERS) (METERS)  (METERS)  (METERS) (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

       1  0 0    0   0.10000E+01     0.0        0.0     169.0    50.30    327.60     15.24     1.04     10.97     73.20     48.80
```

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 52 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	69.0	4.10	416.0	274.0	0.0000	4	0.2500	0.000000E+00
2	84.0	5.70	434.0	273.0	0.0000	4	0.2500	0.000000E+00
3	93.0	4.60	452.0	271.0	0.0000	4	0.2500	0.000000E+00
4	90.0	4.10	469.0	270.0	0.0000	4	0.2500	0.000000E+00
5	79.0	3.60	1885.0	268.0	0.0200	5	0.3000	0.000000E+00
6	94.0	4.10	505.0	268.0	0.0000	4	0.2500	0.000000E+00
7	101.0	3.60	522.0	266.0	0.0000	4	0.2500	0.000000E+00
8	125.0	4.60	540.0	265.0	0.0000	4	0.2500	0.000000E+00
9	111.0	2.10	558.0	264.0	0.0000	4	0.2500	0.000000E+00
10	97.0	4.60	558.0	264.0	0.0000	4	0.2500	0.000000E+00
11	103.0	4.10	575.0	264.0	0.0000	4	0.2500	0.000000E+00
12	133.0	4.10	593.0	263.0	0.0000	3	0.2000	0.000000E+00
13	124.0	4.60	611.0	263.0	0.0000	3	0.2000	0.000000E+00
14	119.0	3.60	628.0	264.0	0.0000	3	0.2000	0.000000E+00
15	130.0	3.60	646.0	264.0	0.0000	3	0.2000	0.000000E+00
16	137.0	3.60	646.0	264.0	0.0000	4	0.2500	0.000000E+00
17	120.0	2.60	646.0	263.0	0.0000	4	0.2500	0.000000E+00
18	139.0	2.10	618.0	263.0	0.0200	5	0.3000	0.000000E+00
19	118.0	2.60	572.0	263.0	0.0350	6	0.3000	0.000000E+00
20	118.0	1.50	527.0	263.0	0.0350	6	0.3000	0.000000E+00
21	109.0	2.10	481.0	263.0	0.0350	6	0.3000	0.000000E+00
22	78.0	2.60	435.0	263.0	0.0350	6	0.3000	0.000000E+00
23	40.0	2.10	389.0	263.0	0.0350	6	0.3000	0.000000E+00
24	15.0	2.10	343.0	263.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                                    DAILY:  52
                                                                                                    24-HR/PD  1
                                                                                                    SGROUP#   1
                          *** RUTLAND TEST - SLAMS                                       ***

                          * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                      * ENDING WITH HOUR 24 FOR DAY  52 *
                                         * FROM ALL SOURCES *
                                          * FOR THE RECEPTOR GRID *

                       * MAXIMUM VALUE EQUALS      1.28567 AND OCCURRED AT (      500.0,      112.5) *

 DIRECTION /                                                  RANGE (METERS)
 (DEGREES) /      200.0      500.0      1000.0      2000.0      5000.0      10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    315.0 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    292.5 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    270.0 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    247.5 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    225.0 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    202.5 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    180.0 /     0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
    157.5 /     0.03221    0.04648    0.01073    0.00145    0.00004    0.00000    0.00000    0.00000    0.00000
    135.0 /     0.67020    0.93299    0.45270    0.21414    0.07668    0.02948    0.01147    0.00683    0.00485
    112.5 /     0.51141    1.28567    0.96986    0.46455    0.15080    0.04917    0.01694    0.00984    0.00701
     90.0 /     0.38809    1.12004    0.53372    0.18339    0.04430    0.02227    0.01155    0.00778    0.00588
     67.5 /     0.15832    0.29283    0.15355    0.05717    0.01419    0.00810    0.00493    0.00359    0.00280
     45.0 /     0.00235    0.10889    0.13469    0.10973    0.03385    0.00810    0.00108    0.00020    0.00004
     22.5 /     0.00135    0.17195    0.10183    0.06373    0.01365    0.00178    0.00007    0.00000    0.00000
    360.0 /     0.00005    0.01761    0.01194    0.00151    0.00002    0.00000    0.00000    0.00000    0.00000
```

```
                                                                                                   DAILY:  52
                                                                                                   24-HR/PD  1
                         *** RUTLAND TEST - SLAMS                                        ***       SGROUP#   1


                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                      * ENDING WITH HOUR 24 FOR DAY  52 *
                                             * FROM ALL SOURCES *
                                           * FOR THE RECEPTOR GRID *

                  .   * MAXIMUM VALUE EQUALS      1.28567 AND OCCURRED AT (     500.0,      112.5) *
 DIRECTION /                                           RANGE (METERS)
 (DEGREES) /      50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /      0.00000
     315.0 /      0.00000
     292.5 /      0.00000
     270.0 /      0.00000
     247.5 /      0.00000
     225.0 /      0.00000
     202.5 /      0.00000
     180.0 /      0.00000
     157.5 /      0.00000
     135.0 /      0.00376
     112.5 /      0.00553
      90.0 /      0.00475
      67.5 /      0.00226
      45.0 /      0.00001
      22.5 /      0.00000
     360.0 /      0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 02/21/88 Data

```
            ISCST              (DATED 88348)

 1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1    0    0    4    0    0   24    1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02
                                                                 0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
          *** RUTLAND TEST - SLAMS                                                   ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                  ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                   ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                          ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                  ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                             ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                          ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                     ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                     ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                     ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                    ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                    ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                    ISW(12) =   0
 12-HOUR (YES=1,NO=0)                                                    ISW(13) =   0
 24-HOUR (YES=1,NO=0)                                                    ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                      ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                              ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                           ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                         ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)        ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)         ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                        ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                    ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)              ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                    ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                  ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                  ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                         ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                         ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                      ISW(31) =   0

NUMBER OF INPUT SOURCES                                                   NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                  NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)              IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                                   NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                                   NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                      NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                    NHOURS =   24
NUMBER OF DAYS 'OF METEOROLOGICAL DATA                             NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                          TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                  ZR =   10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                          IMET =    5
ALLOCATED DATA STORAGE                                             LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                         MIMIT =   311 WORDS
```

```
                   *** RUTLAND TEST - SLAMS                                                      ***

                      *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                   (METERS/SEC)

                                   1.54,   3.09,   5.14,   8.23,  10.80,

                                     *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                       (METERS)

(   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
                        *** RUTLAND TEST - SLAMS                                  ***


                                 * ELEVATION HEIGHTS IN METERS *
                                * FOR THE DISCRETE RECEPTOR POINTS *
  - X -      - Y -         ELE.            - X -      - Y -        ELE.             - X -      - Y -         ELE.
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0     185.92836          2333.0    29357.0     161.54431          2666.0    30119.0     172.21234
   714.0    29583.0     166.11633
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
                     *** RUTLAND TEST - SLAMS                                        ***

                                           *** SOURCE DATA ***

                 EMISSION RATE                                             TEMP.     EXIT VEL.
                    TYPE=0,1                                               TYPE=0     TYPE=0
          T W    (GRAMS/SEC)                                              (DEG.K);   (M/SEC);             BLDG.     BLDG.     BLDG.
          Y A NUMBER TYPE=2                                BASE           VERT.DIM   HORZ.DIM DIAMETER   HEIGHT    LENGTH     WIDTH
 SOURCE   P K  PART.  (GRAMS/SEC)     X          Y         ELEV.    HEIGHT   TYPE=1   TYPE=1,2  TYPE=0    TYPE=0    TYPE=0    TYPE=0
 NUMBER   E E  CATS. *PER METER**2 (METERS)  (METERS)  (METERS)  (METERS) (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1   0 0    0   0.10000E+01    1700.0    29700.0    169.0     50.30   327.60     15.24      1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 02/21/88)

MET. DATA
DAY 52

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 52 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	69.0	4.10	416.0	274.0	0.0000	4	0.2500	0.000000E+00
2	84.0	5.70	434.0	273.0	0.0000	4	0.2500	0.000000E+00
3	93.0	4.60	452.0	271.0	0.0000	4	0.2500	0.000000E+00
4	90.0	4.10	469.0	270.0	0.0000	4	0.2500	0.000000E+00
5	79.0	3.60	1885.0	268.0	0.0200	5	0.3000	0.000000E+00
6	94.0	4.10	505.0	268.0	0.0000	4	0.2500	0.000000E+00
7	101.0	3.60	522.0	266.0	0.0000	4	0.2500	0.000000E+00
8	125.0	4.60	540.0	265.0	0.0000	4	0.2500	0.000000E+00
9	111.0	2.10	558.0	264.0	0.0000	4	0.2500	0.000000E+00
10	97.0	4.60	558.0	264.0	0.0000	4	0.2500	0.000000E+00
11	103.0	4.10	575.0	264.0	0.0000	4	0.2500	0.000000E+00
12	133.0	4.10	593.0	263.0	0.0000	3	0.2000	0.000000E+00
13	124.0	4.60	611.0	263.0	0.0000	3	0.2000	0.000000E+00
14	119.0	3.60	628.0	264.0	0.0000	3	0.2000	0.000000E+00
15	130.0	3.60	646.0	264.0	0.0000	3	0.2000	0.000000E+00
16	137.0	3.60	646.0	264.0	0.0000	4	0.2500	0.000000E+00
17	120.0	2.60	646.0	263.0	0.0000	4	0.2500	0.000000E+00
18	139.0	2.10	618.0	263.0	0.0200	5	0.3000	0.000000E+00
19	118.0	2.60	572.0	263.0	0.0350	6	0.3000	0.000000E+00
20	118.0	1.50	527.0	263.0	0.0350	6	0.3000	0.000000E+00
21	109.0	2.10	481.0	263.0	0.0350	6	0.3000	0.000000E+00
22	78.0	2.60	435.0	263.0	0.0350	6	0.3000	0.000000E+00
23	40.0	2.10	389.0	263.0	0.0350	6	0.3000	0.000000E+00
24	15.0	2.10	343.0	263.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 02/21/88)

```
                                                                                   DAILY:  52
                                                                                   24-HR/PD  1
                        *** RUTLAND TEST - SLAMS                                 ***  SGROUP#   1

                        * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)       *
                                   * ENDING WITH HOUR 24 FOR DAY  52 *
                                          * FROM ALL SOURCES *
                                  * FOR THE DISCRETE RECEPTOR POINTS *

   - X -      - Y -        CON.           - X -      - Y -       CON.          - X -      - Y -        CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1786.0    29952.0      0.02991        2333.0    29357.0      1.18403        2666.0    30119.0      0.13635
    714.0    29583.0      0.00000
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 03/04/88 Data

```
                    ISCST                       (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0
   1     10     16      0      0      0    24      1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02                                      0 0
 1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
            *** RUTLAND TEST - SLAMS                                              ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                           ISW(1) =    1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)            ISW(2) =    2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                   ISW(3) =    1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                           ISW(4) =    1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                      ISW(5) =    0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                   ISW(6) =    2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                              ISW(7) =    0
  2-HOUR (YES=1,NO=0)                                              ISW(8) =    0
  3-HOUR (YES=1,NO=0)                                              ISW(9) =    0
  4-HOUR (YES=1,NO=0)                                             ISW(10) =    0
  6-HOUR (YES=1,NO=0)                                             ISW(11) =    0
  8-HOUR (YES=1,NO=0)                                             ISW(12) =    0
  12-HOUR (YES=1,NO=0)                                            ISW(13) =    0
  24-HOUR (YES=1,NO=0)                                            ISW(14) =    1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                               ISW(15) =    0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                       ISW(16) =    1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                    ISW(17) =    0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                  ISW(18) =    0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)         ISW(19) =    2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3) ISW(20) =    3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)         ISW(21) =    1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)  ISW(22) =    1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                 ISW(23) =    0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)             ISW(24) =    1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)       ISW(25) =    2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)             ISW(26) =    1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)           ISW(27) =    2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                           ISW(28) =    2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                  ISW(29) =    2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                  ISW(30) =    1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)               ISW(31) =    0

NUMBER OF INPUT SOURCES                                           NSOURC =    1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                          NGROUP =    0
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)          IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                               NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                               NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                  NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                          NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                      TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED              ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                      IMET =   5
ALLOCATED DATA STORAGE                                         LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                     MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
                 *** RUTLAND TEST - SLAMS                                               ***

                        *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                   (METERS/SEC)

                                      1.54,    3.09,    5.14,    8.23,   10.80,

                                         *** RANGES OF POLAR GRID SYSTEM ***
                                                    (METERS)

 200.0,     500.0,     1000.0,     2000.0,     5000.0,    10000.0,    20000.0,    30000.0,    40000.0,    50000.0,


                                       *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                                    (DEGREES)

 360.0,      22.5,       45.0,       67.5,       90.0,      112.5,      135.0,      157.5,      180.0,      202.5,
 225.0,     247.5,      270.0,      292.5,      315.0,      337.5,
                          APPENDIX G (cont.)
                          (SLAMS 03/04/88)

         *** RUTLAND TEST - SLAMS                                    ***


                         * ELEVATION HEIGHTS IN METERS *
                           * FOR THE RECEPTOR GRID *

DIRECTION /                                             RANGE (METERS)
(DEGREES) /     200.0      500.0      1000.0     2000.0     5000.0     10000.0    20000.0    30000.0    40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /   179.83235  201.16840  237.74446  292.60858  335.28067  131.06425  152.40030  152.40030  121.92024
    315.0 /   176.78435  188.97638  213.36041  204.21640  146.30429  280.41656  426.72083  182.88036   76.20015
    292.5 /   167.64034  176.78435  188.97638  146.30429  185.92836  347.47269  152.40030  213.36041  152.40030
    270.0 /   161.54431  167.64034  167.64034  149.35229  152.40030  176.78435  152.40030  152.40030  426.72083
    247.5 /   158.49631  158.49631  160.02031  167.64034  188.97638  463.29691  152.40030  243.84048   91.44018
    225.0 /   164.59233  161.54431  167.64034  234.69646  213.36041  359.66470  457.20090  152.40030  304.80060
    202.5 /   158.49631  170.68834  182.88036  252.98450  265.17651  502.92099  518.16101  304.80060  426.72083
    180.0 /   158.49631  176.78435  167.64034  222.50444  252.98450  368.80872  396.24078  365.76071  304.80060
    157.5 /   158.49631  170.68834  161.54431  158.49631  170.68834  210.31241  487.68097  731.52142  457.20090
    135.0 /   158.49631  158.49631  158.49631  164.59233  213.36041  633.98523  640.08124  701.04138  609.60120
    112.5 /   158.49631  158.49631  166.11633  164.59233  286.51257  579.12115  609.60120  548.64105  304.80060
     90.0 /   161.54431  158.49631  164.59233  192.02438  274.32053  670.56134  365.76071  457.20090  426.72083
     67.5 /   167.64034  164.59233  170.68834  195.07239  246.88849  475.48892  640.08124  609.60120  487.68097
     45.0 /   170.68834  176.78435  166.11633  176.78435  239.26848  707.13739  426.72083  609.60120  304.80060
     22.5 /   182.88036  188.97638  170.68834  176.78435  219.45644  323.08862  853.44165  457.20090  609.60120
    360.0 /   179.83235  196.59639  228.60045  228.60045  222.50444  164.59233  457.20090  853.44165  518.16101
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
                          *** RUTLAND TEST - SLAMS                                    ***


                                          * ELEVATION HEIGHTS IN METERS *
                                            * FOR THE RECEPTOR GRID *

 DIRECTION /                                           RANGE (MET[illegible]
 (DEGREES) /      50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /    121.92024
     315.0 /     91.44018
     292.5 /    304.80060
     270.0 /    304.80060
     247.5 /    182.88036
     225.0 /    152.40030
     202.5 /    487.68097
     180.0 /    304.80060
     157.5 /    701.04138
     135.0 /    365.76071
     112.5 /    457.20090
      90.0 /    304.80060
      67.5 /    304.80060
      45.0 /    304.80060
      22.5 /    609.60120
     360.0 /    518.16101
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
          *** RUTLAND TEST - SLAMS                                              ***

                                    *** SOURCE DATA ***

                  EMISSION RATE                                       TEMP.     EXIT VEL.
                    TYPE=0,1                                          TYPE=0     TYPE=0
        T W       (GRAMS/SEC)                                        (DEG.K);   (M/SEC);              BLDG.     BLDG.     BLDG.
        Y A NUMBER   TYPE=2                           BASE            VERT.DIM  HORZ.DIM DIAMETER    HEIGHT    LENGTH     WIDTH
 SOURCE P K  PART.  (GRAMS/SEC)      X         Y      ELEV.   HEIGHT   TYPE=1   TYPE=1,2  TYPE=0     TYPE=0    TYPE=0    TYPE=0
 NUMBER E E  CATS. *PER METER**2 (METERS)  (METERS) (METERS) (METERS) (METERS)  (METERS) (METERS)   (METERS)  (METERS)  (METERS)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1 0 0    0   0.10000E+01      0.0       0.0    169.0     50.30   327.60     15.24      1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

MET. DATA
DAY 64

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 64 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	226.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
2	230.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
3	220.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
4	235.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
5	228.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
6	227.0	2.10	321.0	268.0	0.0200	5	0.3000	0.000000E+00
7	223.0	1.50	318.0	268.0	0.0000	4	0.2500	0.000000E+00
8	230.0	1.00	311.0	268.0	0.0000	3	0.2000	0.000000E+00
9	210.0	1.50	305.0	268.0	0.0000	3	0.2000	0.000000E+00
10	220.0	2.10	298.0	268.0	0.0000	4	0.2500	0.000000E+00
11	219.0	2.60	292.0	268.0	0.0000	4	0.2500	0.000000E+00
12	211.0	2.10	285.0	269.0	0.0000	4	0.2500	0.000000E+00
13	202.0	1.50	279.0	269.0	0.0000	3	0.2000	0.000000E+00
14	222.0	2.10	272.0	270.0	0.0000	4	0.2500	0.000000E+00
15	236.0	2.10	272.0	270.0	0.0000	4	0.2500	0.000000E+00
16	216.0	2.60	272.0	269.0	0.0000	4	0.2500	0.000000E+00
17	205.0	2.10	272.0	269.0	0.0000	4	0.2500	0.000000E+00
18	191.0	1.50	268.0	269.0	0.0200	5	0.3000	0.000000E+00
19	195.0	1.50	256.0	268.0	0.0350	6	0.3000	0.000000E+00
20	202.0	1.50	244.0	268.0	0.0350	6	0.3000	0.000000E+00
21	200.0	1.50	232.0	268.0	0.0350	6	0.3000	0.000000E+00
22	219.0	1.00	220.0	265.0	0.0350	6	0.3000	0.000000E+00
23	204.0	1.00	208.0	263.0	0.0350	6	0.3000	0.000000E+00
24	186.0	1.00	196.0	263.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
                                                                                                   DAILY:  64
                                                                                                   24-HR/PD  1
                         *** RUTLAND TEST - SLAMS                                         ***      SGROUP#   1

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)       *
                                     * ENDING WITH HOUR 24 FOR DAY  64 *
                                          * FROM ALL SOURCES *
                                        * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      2.51471 AND OCCURRED AT (     500.0,      225.0) *

 DIRECTION /                                                  RANGE (METERS)
 (DEGREES) /       200.0        500.0        1000.0       2000.0       5000.0       10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     315.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     292.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     270.0 /     0.00004      0.00019      0.00003      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     247.5 /     0.03557      0.29152      0.15419      0.05471      0.00903      0.00111      0.00003      0.00000      0.00000
     225.0 /     0.46364      2.51471      2.49640      2.11568      0.60544      0.24196      0.09593      0.05432      0.03668
     202.5 /     0.31165      1.98496      2.29999      1.63913      0.51328      0.22466      0.10044      0.06251      0.04449
     180.0 /     0.02254      0.21032      0.23697      0.27197      0.04769      0.00847      0.00065      0.00007      0.00001
     157.5 /     0.00000      0.00001      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     135.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     112.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
      90.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
      67.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
      45.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
      22.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     360.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
```

```
                                                                                            DAILY:  64
                                                                                            24-HR/PD  1
                         *** RUTLAND TEST - SLAMS                                 ***       SGROUP#   1

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                      * ENDING WITH HOUR 24 FOR DAY  64 *
                                             * FROM ALL SOURCES *
                                           * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      2.51471 AND OCCURRED AT (     500.0,     225.0) *
DIRECTION /
(DEGREES) /     50000.0                           RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   337.5 /      0.00000
   315.0 /      0.00000
   292.5 /      0.00000
   270.0 /      0.00000
   247.5 /      0.00000
   225.0 /      0.02605
   202.5 /      0.03417
   180.0 /      0.00000
   157.5 /      0.00000
   135.0 /      0.00000
   112.5 /      0.00000
    90.0 /      0.00000
    67.5 /      0.00000
    45.0 /      0.00000
    22.5 /      0.00000
   360.0 /      0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 03/04/88 Data

```
             ISCST               (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1      0      0    4      0      0     24      1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                              0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
                      *** RUTLAND TEST - SLAMS
                                                                                ***
CALCULATE (CONCENTRATION=1,DEPOSITION=2)
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)          ISW(1) =   1
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                 ISW(2) =   2
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                         ISW(3) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                    ISW(4) =   1
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                 ISW(5) =   0
                                                                 ISW(6) =   2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)
  2-HOUR (YES=1,NO=0)                                            ISW(7) =   0
  3-HOUR (YES=1,NO=0)                                            ISW(8) =   0
  4-HOUR (YES=1,NO=0)                                            ISW(9) =   0
  6-HOUR (YES=1,NO=0)                                           ISW(10) =   0
  8-HOUR (YES=1,NO=0)                                           ISW(11) =   0
  12-HOUR (YES=1,NO=0)                                          ISW(12) =   0
  24-HOUR (YES=1,NO=0)                                          ISW(13) =   0
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                             ISW(14) =   1
                                                                ISW(15) =   0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                  ISW(16) =   1
  MAXIMUM 50 TABLES (YES=1,NO=0)                                ISW(17) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)       ISW(18) =   0
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3) ISW(19) = 2
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)       ISW(20) =   3
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3) ISW(21) =  1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)               ISW(22) =   1
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)           ISW(23) =   0
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)     ISW(24) =   1
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)           ISW(25) =   2
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)         ISW(26) =   1
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                         ISW(27) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                ISW(28) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                ISW(29) =   2
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)             ISW(30) =   1
                                                                ISW(31) =   0
NUMBER OF INPUT SOURCES
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                        NSOURC =    1
                                                                NGROUP =    0
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)          IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                               NXPNTS =   0
NUMBER OF Y (THETA) GRID VALUES                               NYPNTS =   0
NUMBER OF DISCRETE RECEPTORS                                  NXWYPT =   4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                          NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                      TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED              ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                      IMET =   5
ALLOCATED DATA STORAGE                                         LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                     MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
                     *** RUTLAND TEST - SLAMS                                                    ***

                      *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                 (METERS/SEC)

                                     1.54,    3.09,    5.14,   8.23,   10.80,

                                        *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                   (METERS)

 (   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
            *** RUTLAND TEST - SLAMS                                                  ***

                                          * ELEVATION HEIGHTS IN METERS *
                                        * FOR THE DISCRETE RECEPTOR POINTS *
  - X -     - Y -        ELE.           - X -     - Y -       ELE.           - X -     - Y -       ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 1786.0   29952.0     185.92836         2333.0   29357.0    161.54431        2666.0   30119.0    172.21234
  714.0   29583.0     166.11633
```

APPENDIX G (cont.)
(SLAMS 03/04/88)

```
                  *** RUTLAND TEST - SLAMS                                                                    ***

                                                 *** SOURCE DATA ***
                         EMISSION RATE
                           TYPE=0,1                                                    TEMP.     EXIT VEL.
          T W            (GRAMS/SEC)                                                  TYPE=0     TYPE=0
          Y A NUMBER        TYPE=2                                                   (DEG.K);   (M/SEC);
 SOURCE   P K  PART.     (GRAMS/SEC)      X         Y        BASE                    VERT.DIM   HORZ.DIM  DIAMETER   BLDG.     BLDG.     BLDG.
 NUMBER   E E  CATS.   *PER METER**2  (METERS)  (METERS)    ELEV.      HEIGHT       TYPE=1     TYPE=1,2   TYPE=0    HEIGHT    LENGTH    WIDTH
- - - - - - - - - - - - - - - - - - - - - - - - - - - -  (METERS)   (METERS)     (METERS)   (METERS)  (METERS)   TYPE=0    TYPE=0    TYPE=0
                                                         - - - - - - - - - - - - - - - - - - - - - - - - - -  (METERS)  (METERS)  (METERS)
                                                                                                              - - - - - - - - - - - - - -
      1   0 0    0     0.10000E+01     1700.0   29700.0     169.0      50.30      327.60      15.24      1.04     10.97     73.20     48.80
```

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 64 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	226.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
2	230.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
3	220.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
4	235.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
5	228.0	1.50	321.0	268.0	0.0350	6	0.3000	0.000000E+00
6	227.0	2.10	321.0	268.0	0.0200	5	0.3000	0.000000E+00
7	223.0	1.50	318.0	268.0	0.0000	4	0.2500	0.000000E+00
8	230.0	1.00	311.0	268.0	0.0000	3	0.2000	0.000000E+00
9	210.0	1.50	305.0	268.0	0.0000	3	0.2000	0.000000E+00
10	220.0	2.10	298.0	268.0	0.0000	4	0.2500	0.000000E+00
11	219.0	2.60	292.0	268.0	0.0000	4	0.2500	0.000000E+00
12	211.0	2.10	285.0	269.0	0.0000	4	0.2500	0.000000E+00
13	202.0	1.50	279.0	269.0	0.0000	3	0.2000	0.000000E+00
14	222.0	2.10	272.0	270.0	0.0000	4	0.2500	0.000000E+00
15	236.0	2.10	272.0	270.0	0.0000	4	0.2500	0.000000E+00
16	216.0	2.60	272.0	269.0	0.0000	4	0.2500	0.000000E+00
17	205.0	2.10	272.0	269.0	0.0000	4	0.2500	0.000000E+00
18	191.0	1.50	268.0	269.0	0.0200	5	0.3000	0.000000E+00
19	195.0	1.50	256.0	268.0	0.0350	6	0.3000	0.000000E+00
20	202.0	1.50	244.0	268.0	0.0350	6	0.3000	0.000000E+00
21	200.0	1.50	232.0	268.0	0.0350	6	0.3000	0.000000E+00
22	219.0	1.00	220.0	265.0	0.0350	6	0.3000	0.000000E+00
23	204.0	1.00	208.0	263.0	0.0350	6	0.3000	0.000000E+00
24	186.0	1.00	196.0	263.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                                DAILY:  64
                                                                                                24-HR/PD  1
                  *** RUTLAND TEST - SLAMS                                       ***            SGROUP#   1

                  * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                * ENDING WITH HOUR 24 FOR DAY  64 *
                                      * FROM ALL SOURCES *
                               * FOR THE DISCRETE RECEPTOR POINTS *
    - X -      - Y -          CON.           - X -     - Y -          CON.           - X -     - Y -          CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
    1786.0    29952.0        0.00000        2333.0    29357.0        0.00000         2666.0    30119.0        0.00000
     714.0    29583.0        0.00106
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 03/16/88 Data

```
          ISCST                (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1     10     16     0     0     0     24     1
   0.20000E+03   0.50000E+03   0.10000E+04   0.20000E+04   0.50000E+04   0.10000E+05   0.20000E+05   0.30000E+05
   0.40000E+05   0.50000E+05
   0.00000E+00   0.22500E+02   0.45000E+02   0.67500E+02   0.90000E+02   0.11250E+03   0.13500E+03   0.15750E+03
   0.18000E+03   0.20250E+03   0.22500E+03   0.24750E+03   0.27000E+03   0.29250E+03   0.31500E+03   0.33750E+03
   0.59000E+03   0.64500E+03   0.75000E+03   0.75000E+03   0.73000E+03   0.54000E+03   0.15000E+04   0.28000E+04
   0.17000E+04   0.17000E+04
   0.60000E+03   0.62000E+03   0.56000E+03   0.58000E+03   0.72000E+03   0.10600E+04   0.28000E+04   0.15000E+04
   0.20000E+04   0.20000E+04
   0.56000E+03   0.58000E+03   0.54500E+03   0.58000E+03   0.78500E+03   0.23200E+04   0.14000E+04   0.20000E+04
   0.10000E+04   0.10000E+04
   0.55000E+03   0.54000E+03   0.56000E+03   0.64000E+03   0.81000E+03   0.15600E+04   0.21000E+04   0.20000E+04
   0.16000E+04   0.10000E+04
   0.53000E+03   0.52000E+03   0.54000E+03   0.63000E+03   0.90000E+03   0.22000E+04   0.12000E+04   0.15000E+04
   0.14000E+04   0.10000E+04
   0.52000E+03   0.52000E+03   0.54500E+03   0.54000E+03   0.94000E+03   0.19000E+04   0.20000E+04   0.18000E+04
   0.10000E+04   0.15000E+04
   0.52000E+03   0.52000E+03   0.52000E+03   0.54000E+03   0.70000E+03   0.20800E+04   0.21000E+04   0.23000E+04
   0.20000E+04   0.12000E+04
   0.52000E+03   0.56000E+03   0.53000E+03   0.52000E+03   0.56000E+03   0.69000E+03   0.16000E+04   0.24000E+04
   0.15000E+04   0.23000E+04
   0.52000E+03   0.58000E+03   0.55000E+03   0.73000E+03   0.83000E+03   0.12100E+04   0.13000E+04   0.12000E+04
   0.10000E+04   0.10000E+04
   0.52000E+03   0.56000E+03   0.60000E+03   0.83000E+03   0.87000E+03   0.16500E+04   0.17000E+04   0.10000E+04
   0.14000E+04   0.16000E+04
   0.54000E+03   0.53000E+03   0.55000E+03   0.77000E+03   0.70000E+03   0.11800E+04   0.15000E+04   0.50000E+03
   0.10000E+04   0.50000E+03
   0.52000E+03   0.52000E+03   0.52500E+03   0.55000E+03   0.62000E+03   0.15200E+04   0.50000E+03   0.80000E+03
   0.30000E+03   0.60000E+03
   0.53000E+03   0.55000E+03   0.55000E+03   0.49000E+03   0.50000E+03   0.58000E+03   0.50000E+03   0.50000E+03
   0.14000E+04   0.10000E+04
   0.55000E+03   0.58000E+03   0.62000E+03   0.48000E+03   0.61000E+03   0.11400E+04   0.50000E+03   0.70000E+03
   0.50000E+03   0.10000E+04
   0.58000E+03   0.62000E+03   0.70000E+03   0.67000E+03   0.48000E+03   0.92000E+03   0.14000E+04   0.60000E+03
   0.25000E+03   0.30000E+03
   0.59000E+03   0.66000E+03   0.78000E+03   0.96000E+03   0.11000E+04   0.43000E+03   0.50000E+03   0.50000E+03
   0.40000E+03   0.40000E+03
   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
   0.00000E+00   0.10000E+02                                          0 0
   1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
               *** RUTLAND TEST - SLAMS                                          ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                            ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)             ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                    ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                            ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                       ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                    ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                               ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                               ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                               ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                              ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                              ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                              ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                             ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                             ISW(14) =   1
PRINT 'N'-DAY TABLE(S)  (YES=1,NO=0)                               ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                        ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                     ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                   ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)          ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)  ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)          ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)   ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                  ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)              ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)        ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)              ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)            ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                            ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                   ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                   ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                ISW(31) =   0

NUMBER OF INPUT SOURCES                                             NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                            NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)                IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                     NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                                     NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                        NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                      NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                                NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                            TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                    ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                            IMET =   5
ALLOCATED DATA STORAGE                                               LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                           MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
                    *** RUTLAND TEST - SLAMS                                                        ***

                      *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                (METERS/SEC)

                                  1.54,    3.09,    5.14,   8.23,  10.80,

                                    *** RANGES OF POLAR GRID SYSTEM ***
                                                 (METERS)
   200.0,      500.0,     1000.0,     2000.0,     5000.0,    10000.0,    20000.0,    30000.0,    40000.0,    50000.0,


                                 *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                                (DEGREES)
   360.0,       22.5,       45.0,       67.5,       90.0,      112.5,
   225.0,      247.5,      270.0,      292.5,      315.0,      337.5,      135.0,      157.5,      180.0,      202.5,
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
                    *** RUTLAND TEST - SLAMS                                                     ***


                                          * ELEVATION HEIGHTS IN METERS *
                                            * FOR THE RECEPTOR GRID *
 DIRECTION /                                                   RANGE (METERS)
 (DEGREES) /       200.0        500.0        1000.0       2000.0       5000.0       10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /     179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
    315.0 /     176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
    292.5 /     167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
    270.0 /     161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
    247.5 /     158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
    225.0 /     164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
    202.5 /     158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
    180.0 /     158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
    157.5 /     158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
    135.0 /     158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
    112.5 /     158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
     90.0 /     161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
     67.5 /     167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
     45.0 /     170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
     22.5 /     182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
    360.0 /     179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
          *** RUTLAND TEST - SLAMS                                          ***


                                   * ELEVATION HEIGHTS IN METERS *
                                     * FOR THE RECEPTOR GRID *
 DIRECTION /
 (DEGREES) /     50000.0                     RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
     337.5 /   121.92024
     315.0 /    91.44018
     292.5 /   304.80060
     270.0 /   304.80060
     247.5 /   182.88036
     225.0 /   152.40030
     202.5 /   487.68097
     180.0 /   304.80060
     157.5 /   701.04138
     135.0 /   365.76071
     112.5 /   457.20090
      90.0 /   304.80060
      67.5 /   304.80060
      45.0 /   304.80060
      22.5 /   609.60120
     360.0 /   518.16101
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
                  *** RUTLAND TEST - SLAMS                                        ***

                                         *** SOURCE DATA ***

                   EMISSION RATE                                              TEMP.     EXIT VEL.
                      TYPE=0,1                                               TYPE=0      TYPE=0
           T W     (GRAMS/SEC)                                              (DEG.K);    (M/SEC);
           Y A NUMBER  TYPE=2                              BASE             VERT.DIM   HORZ.DIM  DIAMETER    BLDG.      BLDG.      BLDG.
  SOURCE   P K  PART.  (GRAMS/SEC)      X           Y        ELEV.   HEIGHT    TYPE=1    TYPE=1,2   TYPE=0     HEIGHT     LENGTH     WIDTH
  NUMBER   E E  CATS. *PER METER**2 (METERS)   (METERS)  (METERS)  (METERS)  (METERS)   (METERS)   (METERS)   TYPE=0     TYPE=0     TYPE=0
                                                                                                            (METERS)   (METERS)   (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

       1   0 0     0  0.10000E+01      0.0         0.0     169.0     50.30    327.60      15.24       1.04      10.97      73.20      48.80
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

*** RUTLAND TEST - SLAMS *** MET. DATA
DAY 76

* METEOROLOGICAL DATA FOR DAY 76 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	100.0	1.50	703.0	273.0	0.0350	6	0.3000	0.000000E+00
2	91.0	1.50	703.0	273.0	0.0350	6	0.3000	0.000000E+00
3	26.0	1.00	703.0	271.0	0.0350	6	0.3000	0.000000E+00
4	18.0	1.50	703.0	271.0	0.0350	6	0.3000	0.000000E+00
5	22.0	1.50	703.0	271.0	0.0350	6	0.3000	0.000000E+00
6	30.0	1.00	703.0	271.0	0.0350	6	0.3000	0.000000E+00
7	29.0	1.00	791.0	273.0	0.0200	5	0.3000	0.000000E+00
8	37.0	1.00	890.0	273.0	0.0000	4	0.2500	0.000000E+00
9	46.0	1.00	990.0	273.0	0.0000	3	0.2000	0.000000E+00
10	26.0	1.00	1090.0	273.0	0.0000	3	0.2000	0.000000E+00
11	287.0	1.50	1190.0	273.0	0.0000	3	0.2000	0.000000E+00
12	228.0	2.60	1290.0	273.0	0.0000	4	0.2500	0.000000E+00
13	195.0	3.60	1390.0	275.0	0.0000	4	0.2500	0.000000E+00
14	173.0	4.10	1490.0	275.0	0.0000	4	0.2500	0.000000E+00
15	180.0	3.60	1490.0	274.0	0.0000	4	0.2500	0.000000E+00
16	191.0	3.60	1490.0	275.0	0.0000	4	0.2500	0.000000E+00
17	185.0	3.10	1490.0	274.0	0.0000	4	0.2500	0.000000E+00
18	182.0	3.10	1485.0	274.0	0.0200	5	0.3000	0.000000E+00
19	186.0	2.60	1428.0	274.0	0.0200	5	0.3000	0.000000E+00
20	185.0	2.60	1371.0	274.0	0.0200	5	0.3000	0.000000E+00
21	172.0	2.60	1315.0	273.0	0.0350	6	0.3000	0.000000E+00
22	182.0	1.50	1258.0	273.0	0.0350	6	0.3000	0.000000E+00
23	177.0	1.00	1202.0	273.0	0.0350	6	0.3000	0.000000E+00
24	211.0	1.00	1145.0	273.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
                                                                                                  DAILY:  76
                                                                                                  24-HR/PD  1
                  *** RUTLAND TEST - SLAMS                                          ***            SGROUP#   1

                  * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                               * ENDING WITH HOUR 24 FOR DAY  76 *
                                     * FROM ALL SOURCES *
                                   * FOR THE RECEPTOR GRID *

               * MAXIMUM VALUE EQUALS      2.26788 AND OCCURRED AT (      500.0,       22.5) *

 DIRECTION /                                               RANGE (METERS)
 (DEGREES) /      200.0       500.0       1000.0      2000.0      5000.0      10000.0     20000.0     30000.0     40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /      0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    315.0 /      0.01864     0.01939     0.00408     0.00041     0.00000     0.00000     0.00000     0.00000     0.00000
    292.5 /      0.24286     0.39995     0.14449     0.04080     0.00892     0.00463     0.00227     0.00132     0.00083
    270.0 /      0.06182     0.13575     0.04363     0.00921     0.00071     0.00007     0.00000     0.00000     0.00000
    247.5 /      0.00282     0.02084     0.00732     0.00114     0.00002     0.00000     0.00000     0.00000     0.00000
    225.0 /      0.07679     0.31432     0.16899     0.06442     0.01427     0.00522     0.00206     0.00125     0.00086
    202.5 /      0.07277     0.44631     0.30197     0.13182     0.01488     0.00177     0.00017     0.00004     0.00001
    180.0 /      0.17935     1.74334     1.36130     1.36411     0.36110     0.12831     0.04230     0.02077     0.01206
    157.5 /      0.01001     0.05282     0.01665     0.00323     0.00011     0.00000     0.00000     0.00000     0.00000
    135.0 /      0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    112.5 /      0.00000     0.00416     0.02069     0.00829     0.00050     0.00001     0.00000     0.00000     0.00000
     90.0 /      0.00001     0.04724     0.29750     0.33363     0.11919     0.05128     0.02291     0.01421     0.01002
     67.5 /      0.02779     0.08418     0.03069     0.00567     0.00026     0.00001     0.00000     0.00000     0.00000
     45.0 /      0.23538     1.02939     0.47293     0.15854     0.03357     0.01503     0.00843     0.00644     0.00541
     22.5 /      0.39581     2.26788     1.39006     0.97990     0.34533     0.11805     0.04107     0.02292     0.01562
    360.0 /      0.02386     0.04893     0.01338     0.00148     0.00002     0.00000     0.00000     0.00000     0.00000
```

```
                                                                                                      DAILY:  76
                                                                                                      24-HR/PD  1
                          *** RUTLAND TEST - SLAMS                                                    SGROUP#   1
                                                                               ***

                          * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)         *
                                      * ENDING WITH HOUR 24 FOR DAY  76 *
                                           * FROM ALL SOURCES *
                                         * FOR THE RECEPTOR GRID *

                       * MAXIMUM VALUE EQUALS      2.26788 AND OCCURRED AT (      500.0,      22.5) *
 DIRECTION /
 (DEGREES) /       50000.0                                 RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /       0.00000
     315.0 /       0.00000
     292.5 /       0.00054
     270.0 /       0.00000
     247.5 /       0.00000
     225.0 /       0.00062
     202.5 /       0.00000
     180.0 /       0.00771
     157.5 /       0.00000
     135.0 /       0.00000
     112.5 /       0.00000
      90.0 /       0.00757
      67.5 /       0.00000
      45.0 /       0.00474
      22.5 /       0.01182
     360.0 /       0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 03/16/88 Data

```
                   ISCST                    (DATED 88348)
1 2 1 1 0 2 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0.
    1     0     0     4     0     0    24     1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02
                                                                     0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)          IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                                NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                                NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                   NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                 NHOURS =   24
NUMBER OF DAYS OF METEOROLOGICAL DATA                           NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                       TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED               ZR =   10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                       IMET =    5
ALLOCATED DATA STORAGE                                          LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                      MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
*** RUTLAND TEST - SLAMS                                      ***

     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                              (METERS/SEC)

                   1.54,   3.09,   5.14,   8.23,  10.80,

              *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                (METERS)

(   1786.0,  29952.0), (   2333.0,  29357.0), (   2666.0,  30119.0), (    714.0,  29583.0), (
                                      APPENDIX G (cont.)
                                      (SLAMS 03/16/88)

                  *** RUTLAND TEST - SLAMS                                              ***

                                 * ELEVATION HEIGHTS IN METERS *
                               * FOR THE DISCRETE RECEPTOR POINTS *
  - X -     - Y -        ELE.          - X -     - Y -        ELE.          - X -     - Y -        ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0   29952.0    185.92836        2333.0   29357.0    161.54431        2666.0   30119.0    172.21234
   714.0   29583.0    166.11633
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
                  *** RUTLAND TEST - SLAMS                                          ***

                                               *** SOURCE DATA ***
                    EMISSION RATE                                            TEMP.      EXIT VEL.
                      TYPE=0,1                                               TYPE=0      TYPE=0
          T W       (GRAMS/SEC)                                            (DEG.K);   (M/SEC);
          Y A NUMBER   TYPE=2                                BASE          VERT.DIM   HORZ.DIM  DIAMETER   BLDG.      BLDG.      BLDG.
 SOURCE   P K  PART.  (GRAMS/SEC)       X           Y        ELEV.    HEIGHT   TYPE=1    TYPE=1,2   TYPE=0    HEIGHT     LENGTH     WIDTH
 NUMBER   E E  CATS. *PER METER**2  (METERS)   (METERS)   (METERS)  (METERS)  (METERS)   (METERS)  (METERS)   TYPE=0     TYPE=0     TYPE=0
                                                                                                           (METERS)   (METERS)   (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1   0 0    0   0.10000E+01    1700.0    29700.0     169.0     50.30    327.60     15.24      1.04      10.97      73.20      48.80
```

APPENDIX G (cont.)
(SLAMS 03/16/88)

```
          *** RUTLAND TEST - SLAMS                                                                        MET.  DATA
                                                                                        ***               DAY  76

                                          * METEOROLOGICAL DATA FOR DAY  76 *

                                                                 POT. TEMP.
             FLOW        WIND      MIXING                        GRADIENT                      WIND         DECAY
   HOUR     VECTOR      SPEED      HEIGHT        TEMP.           (DEG. K      STABILITY     PROFILE     COEFFICIENT
          (DEGREES)     (MPS)     (METERS)     (DEG. K)        PER METER)     CATEGORY     EXPONENT      (PER SEC)
  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     1       100.0       1.50        703.0       273.0           0.0350           6         0.3000     0.000000E+00
     2        91.0       1.50        703.0       273.0           0.0350           6         0.3000     0.000000E+00
     3        26.0       1.00        703.0       271.0           0.0350           6         0.3000     0.000000E+00
     4        18.0       1.50        703.0       271.0           0.0350           6         0.3000     0.000000E+00
     5        22.0       1.50        703.0       271.0           0.0350           6         0.3000     0.000000E+00
     6        30.0       1.00        703.0       271.0           0.0350           6         0.3000     0.000000E+00
     7        29.0       1.00        791.0       273.0           0.0200           5         0.3000     0.000000E+00
     8        37.0       1.00        890.0       273.0           0.0000           4         0.2500     0.000000E+00
     9        46.0       1.00        990.0       273.0           0.0000           3         0.2000     0.000000E+00
    10        26.0       1.00       1090.0       273.0           0.0000           3         0.2000     0.000000E+00
    11       287.0       1.50       1190.0       273.0           0.0000           3         0.2000     0.000000E+00
    12       228.0       2.60       1290.0       273.0           0.0000           4         0.2500     0.000000E+00
    13       195.0       3.60       1390.0       275.0           0.0000           4         0.2500     0.000000E+00
    14       173.0       4.10       1490.0       275.0           0.0000           4         0.2500     0.000000E+00
    15       180.0       3.60       1490.0       274.0           0.0000           4         0.2500     0.000000E+00
    16       191.0       3.60       1490.0       275.0           0.0000           4         0.2500     0.000000E+00
    17       185.0       3.10       1490.0       274.0           0.0000           4         0.2500     0.000000E+00
    18       182.0       3.10       1485.0       274.0           0.0200           5         0.3000     0.000000E+00
    19       186.0       2.60       1428.0       274.0           0.0200           5         0.3000     0.000000E+00
    20       185.0       2.60       1371.0       274.0           0.0200           5         0.3000     0.000000E+00
    21       172.0       2.60       1315.0       273.0           0.0350           6         0.3000     0.000000E+00
    22       182.0       1.50       1258.0       273.0           0.0350           6         0.3000     0.000000E+00
    23       177.0       1.00       1202.0       273.0           0.0350           6         0.3000     0.000000E+00
    24       211.0       1.00       1145.0       273.0           0.0350           6         0.3000     0.000000E+00
```

```
                                                                                                DAILY:  76
                                                                                                24-HR/PD  1
                                                                                                SGROUP#   1
                        *** RUTLAND TEST - SLAMS                                           ***

                        * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                    * ENDING WITH HOUR 24 FOR DAY  76 *
                                         * FROM ALL SOURCES *
                                   * FOR THE DISCRETE RECEPTOR POINTS *

  - X -      - Y -        CON.            - X -      - Y -        CON.            - X -      - Y -        CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0      0.72345          2333.0    29357.0      0.00046          2666.0    30119.0      0.03027
   714.0    29583.0      0.01175
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 04/21/88 Data

```
                       ISCST                 (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1    10    16     0     0     0    24     1
  0.20000E+03   0.50000E+03   0.10000E+04   0.20000E+04   0.50000E+04   0.10000E+05   0.20000E+05   0.30000E+05
  0.40000E+05   0.50000E+05
  0.00000E+00   0.22500E+02   0.45000E+02   0.67500E+02   0.90000E+02   0.11250E+03   0.13500E+03   0.15750E+03
  0.18000E+03   0.20250E+03   0.22500E+03   0.24750E+03   0.27000E+03   0.29250E+03   0.31500E+03   0.33750E+03
  0.59000E+03   0.64500E+03   0.75000E+03   0.75000E+03   0.73000E+03   0.54000E+03   0.15000E+04   0.28000E+04
  0.17000E+04   0.17000E+04
  0.60000E+03   0.62000E+03   0.56000E+03   0.58000E+03   0.72000E+03   0.10600E+04   0.28000E+04   0.15000E+04
  0.20000E+04   0.20000E+04
  0.56000E+03   0.58000E+03   0.54500E+03   0.58000E+03   0.78500E+03   0.23200E+04   0.14000E+04   0.20000E+04
  0.10000E+04   0.10000E+04
  0.55000E+03   0.54000E+03   0.56000E+03   0.64000E+03   0.81000E+03   0.15600E+04   0.21000E+04   0.20000E+04
  0.16000E+04   0.10000E+04
  0.53000E+03   0.52000E+03   0.54000E+03   0.63000E+03   0.90000E+03   0.22000E+04   0.12000E+04   0.15000E+04
  0.14000E+04   0.10000E+04
  0.52000E+03   0.52000E+03   0.54500E+03   0.54000E+03   0.94000E+03   0.19000E+04   0.20000E+04   0.18000E+04
  0.10000E+04   0.15000E+04
  0.52000E+03   0.52000E+03   0.52000E+03   0.54000E+03   0.70000E+03   0.20800E+04   0.21000E+04   0.23000E+04
  0.20000E+04   0.12000E+04
  0.52000E+03   0.56000E+03   0.53000E+03   0.52000E+03   0.56000E+03   0.69000E+03   0.16000E+04   0.24000E+04
  0.15000E+04   0.23000E+04
  0.52000E+03   0.58000E+03   0.55000E+03   0.73000E+03   0.83000E+03   0.12100E+04   0.13000E+04   0.12000E+04
  0.10000E+04   0.10000E+04
  0.52000E+03   0.56000E+03   0.60000E+03   0.83000E+03   0.87000E+03   0.16500E+04   0.17000E+04   0.10000E+04
  0.14000E+04   0.16000E+04
  0.54000E+03   0.53000E+03   0.55000E+03   0.77000E+03   0.70000E+03   0.11800E+04   0.15000E+04   0.50000E+03
  0.10000E+04   0.50000E+03
  0.52000E+03   0.52000E+03   0.52500E+03   0.55000E+03   0.62000E+03   0.15200E+04   0.50000E+03   0.80000E+03
  0.30000E+03   0.60000E+03
  0.53000E+03   0.55000E+03   0.55000E+03   0.49000E+03   0.50000E+03   0.58000E+03   0.50000E+03   0.50000E+03
  0.14000E+04   0.10000E+04
  0.55000E+03   0.58000E+03   0.62000E+03   0.48000E+03   0.61000E+03   0.11400E+04   0.50000E+03   0.70000E+03
  0.50000E+03   0.10000E+04
  0.58000E+03   0.62000E+03   0.70000E+03   0.67000E+03   0.48000E+03   0.92000E+03   0.14000E+04   0.60000E+03
  0.25000E+03   0.30000E+03
  0.59000E+03   0.66000E+03   0.78000E+03   0.96000E+03   0.11000E+04   0.43000E+03   0.50000E+03   0.50000E+03
  0.40000E+03   0.40000E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                             0 0
  1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
          *** RUTLAND TEST - SLAMS                                                     ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                 ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                        ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                           ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                        ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                   ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                   ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                   ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                  ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                  ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                  ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                 ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                 ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                    ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                            ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                         ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                       ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)              ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)      ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)              ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)       ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                      ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                  ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)            ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                  ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                       ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                       ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                    ISW(31) =   0

NUMBER OF INPUT SOURCES                                                 NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)           IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                                NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                   NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                 NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                           NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                       TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED               ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                       IMET =   5
ALLOCATED DATA STORAGE                                          LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                      MIMIT =   953 WORDS
```

```
               *** RUTLAND TEST - SLAMS                                    ***

                 *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                        (METERS/SEC)

                           1.54,   3.09,   5.14,   8.23,  10.80,

                             *** RANGES OF POLAR GRID SYSTEM ***
                                          (METERS)
     200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                            *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                         (DEGREES)

     360.0,      22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
     225.0,     247.5,     270.0,     292.5,     315.0,     337.5,
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
              *** RUTLAND TEST - SLAMS                                                        ***


                                      * ELEVATION HEIGHTS IN METERS *
                                         * FOR THE RECEPTOR GRID *
DIRECTION /                                                   RANGE (METERS)
(DEGREES) /        200.0        500.0        1000.0       2000.0       5000.0       10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /     179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
    315.0 /     176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
    292.5 /     167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
    270.0 /     161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
    247.5 /     158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
    225.0 /     164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
    202.5 /     158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
    180.0 /     158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
    157.5 /     158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
    135.0 /     158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
    112.5 /     158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
     90.0 /     161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
     67.5 /     167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
     45.0 /     170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
     22.5 /     182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
    360.0 /     179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

```
                    *** RUTLAND TEST - SLAMS                                          ***


                                        * ELEVATION HEIGHTS IN METERS *
                                          * FOR THE RECEPTOR GRID *
 DIRECTION /
 (DEGREES) /     50000.0                            RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /    121.92024
     315.0 /     91.44018
     292.5 /    304.80060
     270.0 /    304.80060
     247.5 /    182.88036
     225.0 /    152.40030
     202.5 /    487.68097
     180.0 /    304.80060
     157.5 /    701.04138
     135.0 /    365.76071
     112.5 /    457.20090
      90.0 /    304.80060
      67.5 /    304.80060
      45.0 /    304.80060
      22.5 /    609.60120
     360.0 /    518.16101
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
                     *** RUTLAND TEST - SLAMS                                                    ***

                                                  *** SOURCE DATA ***

                          EMISSION RATE                                              TEMP.      EXIT VEL.
            T W              TYPE=0,1                                               TYPE=0      TYPE=0
            Y A  NUMBER    (GRAMS/SEC)                                             (DEG.K);    (M/SEC);               BLDG.      BLDG.      BLDG.
   SOURCE   P K   PART.       TYPE=2                                  BASE         VERT.DIM    HORZ.DIM   DIAMETER    HEIGHT     LENGTH      WIDTH
   NUMBER   E E   CATS.    (GRAMS/SEC)      X           Y            ELEV.   HEIGHT   TYPE=1      TYPE=1,2    TYPE=0      TYPE=0     TYPE=0     TYPE=0
                          *PER METER**2  (METERS)    (METERS)     (METERS) (METERS)  (METERS)    (METERS)   (METERS)    (METERS)   (METERS)   (METERS)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        1   0 0     0    0.10000E+01      0.0          0.0     169.0    50.30    327.60       15.24       1.04       10.97      73.20      48.80
```

```
                                                                                  MET.  DATA
      *** RUTLAND TEST - SLAMS                                   ***              DAY 112

                          * METEOROLOGICAL DATA FOR DAY 112 *

                                                POT. TEMP.
         FLOW       WIND     MIXING             GRADIENT                WIND        DECAY
        VECTOR      SPEED    HEIGHT     TEMP.    (DEG. K    STABILITY  PROFILE   COEFFICIENT
HOUR  (DEGREES)     (MPS)   (METERS)  (DEG. K)  PER METER)   CATEGORY  EXPONENT   (PER SEC)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1     212.0       1.00     1254.0     274.0     0.0350        6       0.3000  0.000000E+00
  2      56.0       1.00     1254.0     273.0     0.0350        6       0.3000  0.000000E+00
  3     171.0       1.00     1254.0     273.0     0.0350        6       0.3000  0.000000E+00
  4     192.0       1.00     1254.0     273.0     0.0350        6       0.3000  0.000000E+00
  5     180.0       1.00     1254.0     274.0     0.0350        6       0.3000  0.000000E+00
  6     230.0       1.00     1152.0     274.0     0.0200        5       0.3000  0.000000E+00
  7     168.0       1.00     1043.0     275.0     0.0000        4       0.2500  0.000000E+00
  8     108.0       1.00      934.0     276.0     0.0000        3       0.2000  0.000000E+00
  9     137.0       4.10      825.0     276.0     0.0000        3       0.2000  0.000000E+00
 10     208.0       4.60      716.0     275.0     0.0000        3       0.2000  0.000000E+00
 11     198.0       4.60      607.0     275.0     0.0000        3       0.2000  0.000000E+00
 12     182.0       2.10      497.0     276.0     0.0000        4       0.2500  0.000000E+00
 13     192.0       2.60      388.0     277.0     0.0000        4       0.2500  0.000000E+00
 14     194.0       2.10      279.0     278.0     0.0000        4       0.2500  0.000000E+00
 15     190.0       4.10      279.0     278.0     0.0000        4       0.2500  0.000000E+00
 16     196.0       3.60      279.0     279.0     0.0000        4       0.2500  0.000000E+00
 17     171.0       4.10      279.0     279.0     0.0000        4       0.2500  0.000000E+00
 18     176.0       3.60      279.0     278.0     0.0000        4       0.2500  0.000000E+00
 19     175.0       3.10      309.0     277.0     0.0200        5       0.3000  0.000000E+00
 20     200.0       2.10      385.0     276.0     0.0350        6       0.3000  0.000000E+00
 21     163.0       1.00      461.0     275.0     0.0350        6       0.3000  0.000000E+00
 22     202.0       1.00      537.0     273.0     0.0350        6       0.3000  0.000000E+00
 23     230.0       1.00      614.0     273.0     0.0350        6       0.3000  0.000000E+00
 24     223.0       1.00      690.0     273.0     0.0350        6       0.3000  0.000000E+00
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
                                                                                          DAILY: 112
                                                                                          24-HR/PD  1
                    *** RUTLAND TEST - SLAMS                                  ***         SGROUP#   1

                    * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                * ENDING WITH HOUR 24 FOR DAY 112 *
                                      * FROM ALL SOURCES *
                                    * FOR THE RECEPTOR GRID *

                  * MAXIMUM VALUE EQUALS      2.09450 AND OCCURRED AT (     500.0,     180.0) *
 DIRECTION /
 (DEGREES) /                                               RANGE (METERS)
                200.0       500.0      1000.0      2000.0      5000.0     10000.0     20000.0     30000.0     40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
    337.5 /    0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    315.0 /    0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    292.5 /    0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    270.0 /    0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    247.5 /    0.00010     0.00077     0.00251     0.00073     0.00000     0.00000     0.00000     0.00000     0.00000
    225.0 /    0.11233     0.17952     0.80017     1.12645     0.29004     0.09698     0.02892     0.01334     0.00808
    202.5 /    0.52144     1.45368     1.57509     1.05265     0.30371     0.12772     0.05495     0.03358     0.02368
    180.0 /    0.26927     2.09450     1.23207     0.98112     0.26714     0.11259     0.05174     0.03348     0.02461
    157.5 /    0.07131     0.43120     0.33161     0.17946     0.04506     0.00890     0.00066     0.00007     0.00001
    135.0 /    0.23144     0.19403     0.06446     0.01809     0.00542     0.00340     0.00217     0.00165     0.00135
    112.5 /    0.10469     0.43455     0.20645     0.06461     0.01760     0.01019     0.00559     0.00366     0.00257
     90.0 /    0.03287     0.12936     0.05245     0.01145     0.00090     0.00007     0.00000     0.00000     0.00000
     67.5 /    0.00007     0.01152     0.04736     0.02888     0.00181     0.00004     0.00000     0.00000     0.00000
     45.0 /    0.00003     0.03278     0.04048     0.02348     0.00181     0.00004     0.00000     0.00000     0.00000
     22.5 /    0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    360.0 /    0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
```

```
                                                                                         DAILY: 112
                                                                                         24-HR/PD  1
                     *** RUTLAND TEST - SLAMS                                            SGROUP#   1
                                                                    ***

                     * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                 * ENDING WITH HOUR 24 FOR DAY 112 *
                                      * FROM ALL SOURCES *
                                    * FOR THE RECEPTOR GRID *

                  * MAXIMUM VALUE EQUALS      2.09450 AND OCCURRED AT (     500.0,     180.0) *
DIRECTION /
(DEGREES) /      50000.0                              RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /      0.00000
    315.0 /      0.00000
    292.5 /      0.00000
    270.0 /      0.00000
    247.5 /      0.00000
    225.0 /      0.00506
    202.5 /      0.01806
    180.0 /      0.01934
    157.5 /      0.00000
    135.0 /      0.00114
    112.5 /      0.00187
     90.0 /      0.00000
     67.5 /      0.00000
     45.0 /      0.00000
     22.5 /      0.00000
    360.0 /      0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 04/21/88 Data

```
                ISCST                (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1     0     0     4     0     0    24     1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                           0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
           *** RUTLAND TEST - SLAMS                                                ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                  ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                   ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                          ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                  ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                             ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                          ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                     ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                     ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                     ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                    ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                    ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                    ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                   ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                   ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                      ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                              ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                           ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                         ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)        ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)         ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                        ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                    ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)              ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                    ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                  ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                  ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                         ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                         ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                      ISW(31) =   0

NUMBER OF INPUT SOURCES                                                   NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                  NGROUP =   0
```

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)               IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                    NXPNTS =   0
NUMBER OF Y (THETA) GRID VALUES                                    NYPNTS =   0
NUMBER OF DISCRETE RECEPTORS                                       NXWYPT =   4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                     NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                               NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                           TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                   ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                           IMET =   5
ALLOCATED DATA STORAGE                                              LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                          MIMIT =   311 WORDS
```

```
*** RUTLAND TEST - SLAMS                                        ***

     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                 (METERS/SEC)

                    1.54,   3.09,   5.14,.  8.23,  10.80,

                     *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                   (METERS)

(   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
                    *** RUTLAND TEST - SLAMS                                                ***


                                         * ELEVATION HEIGHTS IN METERS *
                                       * FOR THE DISCRETE RECEPTOR POINTS *
   - X -      - Y -       ELE.           - X -      - Y -        ELE.           - X -      - Y -        ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
   1786.0    29952.0    185.92836        2333.0    29357.0    161.54431        2666.0    30119.0    172.21234
    714.0    29583.0    166.11633
```

```
                                     APPENDIX G (cont.)
                                      (SLAMS 04/21/88)

                  *** RUTLAND TEST - SLAMS                                              ***

                                           *** SOURCE DATA ***

                      EMISSION RATE
                         TYPE=0,1                                        TEMP.    EXIT VEL.
            T W       (GRAMS/SEC)                                       TYPE=0     TYPE=0
            Y A NUMBER   TYPE=2                                        (DEG.K);   (M/SEC);            BLDG.     BLDG.     BLDG.
  SOURCE    P K  PART.  (GRAMS/SEC)     X          Y        BASE       VERT.DIM  HORZ.DIM DIAMETER   HEIGHT    LENGTH    WIDTH
  NUMBER    E E  CATS. *PER METER**2 (METERS)  (METERS)    ELEV.    HEIGHT   TYPE=1   TYPE=1,2  TYPE=0    TYPE=0    TYPE=0    TYPE=0
                                                         (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1     0 0    0   0.10000E+01    1700.0    29700.0    169.0     50.30   327.60     15.24      1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 04/21/88)

MET. DATA
DAY 112

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 112 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	212.0	1.00	1254.0	274.0	0.0350	6	0.3000	0.000000E+00
2	56.0	1.00	1254.0	273.0	0.0350	6	0.3000	0.000000E+00
3	171.0	1.00	1254.0	273.0	0.0350	6	0.3000	0.000000E+00
4	192.0	1.00	1254.0	273.0	0.0350	6	0.3000	0.000000E+00
5	180.0	1.00	1254.0	274.0	0.0350	6	0.3000	0.000000E+00
6	230.0	1.00	1152.0	274.0	0.0200	5	0.3000	0.000000E+00
7	168.0	1.00	1043.0	275.0	0.0000	4	0.2500	0.000000E+00
8	108.0	1.00	934.0	276.0	0.0000	3	0.2000	0.000000E+00
9	137.0	4.10	825.0	276.0	0.0000	3	0.2000	0.000000E+00
10	208.0	4.60	716.0	275.0	0.0000	3	0.2000	0.000000E+00
11	198.0	4.60	607.0	275.0	0.0000	3	0.2000	0.000000E+00
12	182.0	2.10	497.0	276.0	0.0000	4	0.2500	0.000000E+00
13	192.0	2.60	388.0	277.0	0.0000	4	0.2500	0.000000E+00
14	194.0	2.10	279.0	278.0	0.0000	4	0.2500	0.000000E+00
15	190.0	4.10	279.0	278.0	0.0000	4	0.2500	0.000000E+00
16	196.0	3.60	279.0	279.0	0.0000	4	0.2500	0.000000E+00
17	171.0	4.10	279.0	279.0	0.0000	4	0.2500	0.000000E+00
18	176.0	3.60	279.0	278.0	0.0000	4	0.2500	0.000000E+00
19	175.0	3.10	309.0	277.0	0.0200	5	0.3000	0.000000E+00
20	200.0	2.10	385.0	276.0	0.0350	6	0.3000	0.000000E+00
21	163.0	1.00	461.0	275.0	0.0350	6	0.3000	0.000000E+00
22	202.0	1.00	537.0	273.0	0.0350	6	0.3000	0.000000E+00
23	230.0	1.00	614.0	273.0	0.0350	6	0.3000	0.000000E+00
24	223.0	1.00	690.0	273.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 04/21/88)

```
                                                                                                   DAILY: 112
                                                                                                   24-HR/PD  1
                         *** RUTLAND TEST - SLAMS                                       ***        SGROUP#   1

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                     * ENDING WITH HOUR 24 FOR DAY 112 *
                                          * FROM ALL SOURCES *
                                 * FOR THE DISCRETE RECEPTOR POINTS *
   - X -     - Y -        CON.            - X -     - Y -        CON.            - X -     - Y -        CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  1786.0   29952.0      0.00000          2333.0   29357.0      0.24421          2666.0   30119.0      0.05835
   714.0   29583.0      0.00000
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 05/03/88 Data

```
              ISCST                    (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1    10     16     0     0     0    24     1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02
                                                              0 0
1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)

```
                         (SLAMS 05/03/88)

    *** RUTLAND TEST - SLAMS                                                        ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                               ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                       ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                               ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                          ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                       ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                  ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                  ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                  ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                 ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                 ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                 ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                   ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                           ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                        ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                      ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)             ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)     ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)             ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)      ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                     ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                 ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)           ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                 ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)               ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                               ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                      ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                      ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                   ISW(31) =   0

NUMBER OF INPUT SOURCES                                                NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                               NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)          IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                               NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                               NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                  NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                          NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                      TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED              ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                      IMET =   5
ALLOCATED DATA STORAGE                                         LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                     MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                  *** RUTLAND TEST - SLAMS                                                    ***

                   *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                 (METERS/SEC)

                                 1.54,   3.09,   5.14,   8.23,  10.80,

                                    *** RANGES OF POLAR GRID SYSTEM ***
                                                  (METERS)

200.0,    500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                                   *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                                 (DEGREES)

360.0,     22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
225.0,    247.5,     270.0,     292.5,     315.0,     337.5,
                                        APPENDIX G (cont.)
                                         (SLAMS 05/03/88)

                    *** RUTLAND TEST - SLAMS                                          ***


                                 * ELEVATION HEIGHTS IN METERS *
                                   * FOR THE RECEPTOR GRID *
DIRECTION /                                               RANGE (METERS)
(DEGREES) /      200.0        500.0       1000.0      2000.0      5000.0      10000.0     20000.0     30000.0     40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /    179.83235   201.16840   237.74446   292.60858   335.28067   131.06425   152.40030   152.40030   121.92024
    315.0 /    176.78435   188.97638   213.36041   204.21640   146.30429   280.41656   426.72083   182.88036    76.20015
    292.5 /    167.64034   176.78435   188.97638   146.30429   185.92836   347.47269   152.40030   213.36041   152.40030
    270.0 /    161.54431   167.64034   167.64034   149.35229   152.40030   176.78435   152.40030   152.40030   426.72083
    247.5 /    158.49631   158.49631   160.02031   167.64034   188.97638   463.29691   152.40030   243.84048    91.44018
    225.0 /    164.59233   161.54431   167.64034   234.69646   213.36041   359.66470   457.20090   152.40030   304.80060
    202.5 /    158.49631   170.68834   182.88036   252.98450   265.17651   502.92099   518.16101   304.80060   426.72083
    180.0 /    158.49631   176.78435   167.64034   222.50444   252.98450   368.80872   396.24078   365.76071   304.80060
    157.5 /    158.49631   170.68834   161.54431   158.49631   170.68834   210.31241   487.68097   731.52142   457.20090
    135.0 /    158.49631   158.49631   158.49631   164.59233   213.36041   633.98523   640.08124   701.04138   609.60120
    112.5 /    158.49631   158.49631   166.11633   164.59233   286.51257   579.12115   609.60120   548.64105   304.80060
     90.0 /    161.54431   158.49631   164.59233   192.02438   274.32053   670.56134   365.76071   457.20090   426.72083
     67.5 /    167.64034   164.59233   170.68834   195.07239   246.88849   475.48892   640.08124   609.60120   487.68097
     45.0 /    170.68834   176.78435   166.11633   176.78435   239.26848   707.13739   426.72083   609.60120   304.80060
     22.5 /    182.88036   188.97638   170.68834   176.78435   219.45644   323.08862   853.44165   457.20090   609.60120
    360.0 /    179.83235   196.59639   228.60045   228.60045   222.50444   164.59233   457.20090   853.44165   518.16101
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                  *** RUTLAND TEST - SLAMS                                       ***


                                      * ELEVATION HEIGHTS IN METERS *
                                        * FOR THE RECEPTOR GRID *
 DIRECTION /
 (DEGREES) /      50000.0                          RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      337.5 /    121.92024
      315.0 /     91.44018
      292.5 /    304.80060
      270.0 /    304.80060
      247.5 /    182.88036
      225.0 /    152.40030
      202.5 /    487.68097
      180.0 /    304.80060
      157.5 /    701.04138
      135.0 /    365.76071
      112.5 /    457.20090
       90.0 /    304.80060
       67.5 /    304.80060
       45.0 /    304.80060
       22.5 /    609.60120
      360.0 /    518.16101
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                              *** RUTLAND TEST - SLAMS                                               ***

                                                      *** SOURCE DATA ***

                   EMISSION RATE                                                  TEMP.    EXIT VEL.
                      TYPE=0,1                                                   TYPE=0     TYPE=0
        T W        (GRAMS/SEC)                                                 (DEG.K);   (M/SEC);             BLDG.     BLDG.     BLDG.
        Y A NUMBER    TYPE=2                               BASE                VERT.DIM   HORZ.DIM DIAMETER   HEIGHT    LENGTH     WIDTH
 SOURCE P K  PART.  (GRAMS/SEC)       X         Y         ELEV.     HEIGHT      TYPE=1    TYPE=1,2  TYPE=0    TYPE=0    TYPE=0    TYPE=0
 NUMBER E E  CATS. *PER METER**2 (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1 0 0    0   0.10000E+01      0.0       0.0     169.0     50.30    327.60     15.24      1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                                                                                  MET.  DATA
                                                                                  DAY 124
         *** RUTLAND TEST - SLAMS                                    ***

                          * METEOROLOGICAL DATA FOR DAY 124 *

                                                   POT. TEMP.
         FLOW      WIND     MIXING                GRADIENT                 WIND       DECAY
        VECTOR     SPEED    HEIGHT      TEMP.     (DEG. K    STABILITY   PROFILE   COEFFICIENT
HOUR  (DEGREES)    (MPS)   (METERS)  (DEG. K)  PER METER)   CATEGORY   EXPONENT    (PER SEC)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1     295.0      1.00     939.0     278.0     0.0350        6        0.3000   0.000000E+00
  2     182.0      1.00     939.0     278.0     0.0350        6        0.3000   0.000000E+00
  3       8.0      1.00     939.0     278.0     0.0350        6        0.3000   0.000000E+00
  4     103.0      1.00     939.0     278.0     0.0350        6        0.3000   0.000000E+00
  5     171.0      1.00     969.0     278.0     0.0200        5        0.3000   0.000000E+00
  6      48.0      1.00    1105.0     279.0     0.0000        4        0.2500   0.000000E+00
  7     189.0      2.10    1240.0     280.0     0.0000        3        0.2000   0.000000E+00
  8      19.0      2.10    1375.0     281.0     0.0000        4        0.2500   0.000000E+00
  9     202.0      2.60    1511.0     282.0     0.0000        4        0.2500   0.000000E+00
 10      94.0      2.60    1646.0     283.0     0.0000        4        0.2500   0.000000E+00
 11     282.0      3.10    1781.0     284.0     0.0000        3        0.2000   0.000000E+00
 12     208.0      4.10    1916.0     285.0     0.0000        2        0.1500   0.000000E+00
 13     173.0      4.10    2052.0     285.0     0.0000        3        0.2000   0.000000E+00
 14     217.0      4.10    2187.0     285.0     0.0000        4        0.2500   0.000000E+00
 15     212.0      3.60    2187.0     286.0     0.0000        4        0.2500   0.000000E+00
 16     199.0      3.60    2187.0     286.0     0.0000        4        0.2500   0.000000E+00
 17     189.0      3.10    2187.0     285.0     0.0000        4        0.2500   0.000000E+00
 18     183.0      3.60    2187.0     284.0     0.0000        4        0.2500   0.000000E+00
 19     175.0      1.50    2126.0     283.0     0.0200        5        0.3000   0.000000E+00
 20     208.0      1.00    1732.0     282.0     0.0350        6        0.3000   0.000000E+00
 21     182.0      1.00    1338.0     280.0     0.0350        6        0.3000   0.000000E+00
 22     192.0      1.00     945.0     279.0     0.0350        6        0.3000   0.000000E+00
 23     218.0      1.00     551.0     278.0     0.0350        6        0.3000   0.000000E+00
 24     210.0      1.00     157.0     278.0     0.0350        6        0.3000   0.000000E+00
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                                                                                              DAILY: 124
                                                                                              24-HR/PD  1
             *** RUTLAND TEST - SLAMS                                    ***                  SGROUP#   1

             * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)         *
                               * ENDING WITH HOUR 24 FOR DAY 124 *
                                     * FROM ALL SOURCES *
                                    * FOR THE RECEPTOR GRID *

          * MAXIMUM VALUE EQUALS      1.63011 AND OCCURRED AT (      500.0,     180.0) *
DIRECTION /
(DEGREES) /                                            RANGE (METERS)
               200.0      500.0      1000.0     2000.0     5000.0     10000.0    20000.0    30000.0    40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
   337.5 /    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
   315.0 /    0.00550    0.00327    0.00110    0.00006    0.00000    0.00000    0.00000    0.00000    0.00000
   292.5 /    0.28744    0.36993    0.66087    0.20957    0.11850    0.04674    0.01318    0.00576    0.00264
   270.0 /    0.18412    0.14319    0.04257    0.01042    0.00127    0.00023    0.00002    0.00000    0.00000
   247.5 /    0.00870    0.00486    0.00083    0.00007    0.00000    0.00000    0.00000    0.00000    0.00000
   225.0 /    0.33015    0.35014    0.28518    0.21861    0.03246    0.00452    0.00023    0.00002    0.00000
   202.5 /    0.60295    1.52095    1.15424    0.59172    0.09945    0.02211    0.00566    0.00330    0.00249
   180.0 /    0.56440    1.63011    1.30958    1.42786    0.38520    0.14477    0.05230    0.02725    0.01637
   157.5 /    0.09838    0.08438    0.02794    0.00716    0.00041    0.00003    0.00000    0.00000    0.00000
   135.0 /    0.00019    0.00016    0.00002    0.00000    0.00000    0.00000    0.00000    0.00000    0.00000
   112.5 /    0.00500    0.04245    0.09669    0.05251    0.00843    0.00049    0.00000    0.00000    0.00000
    90.0 /    0.07120    0.30085    0.16608    0.06253    0.01282    0.00424    0.00130    0.00061    0.00034
    67.5 /    0.00295    0.03370    0.01718    0.00298    0.00006    0.00000    0.00000    0.00000    0.00000
    45.0 /    0.03471    0.58301    0.33449    0.13806    0.03663    0.01369    0.00594    0.00377    0.00261
    22.5 /    0.40546    0.60582    0.20966    0.07345    0.01766    0.00645    0.00247    0.00147    0.00100
   360.0 /    0.02743    0.37563    0.43639    0.13176    0.01605    0.00132    0.00003    0.00000    0.00000
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                                                                                  DAILY: 124
                                                                                  24-HR/PD  1
                                                                                  SGROUP#   1
                    *** RUTLAND TEST - SLAMS                                ***

                    * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                  * ENDING WITH HOUR 24 FOR DAY 124 *
                                       * FROM ALL SOURCES *
                                     * FOR THE RECEPTOR GRID *

                  * MAXIMUM VALUE EQUALS      1.63011 AND OCCURRED AT (     500.0,     180.0) *
DIRECTION /                                     RANGE (METERS)
(DEGREES) /      50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   337.5 /       0.00000
   315.0 /       0.00000
   292.5 /       0.00137
   270.0 /       0.00000
   247.5 /       0.00000
   225.0 /       0.00000
   202.5 /       0.00206
   180.0 /       0.01060
   157.5 /       0.00000
   135.0 /       0.00000
   112.5 /       0.00000
    90.0 /       0.00020
    67.5 /       0.00000
    45.0 /       0.00187
    22.5 /       0.00072
   360.0 /       0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Polar Receptors Using SLAMS 05/03/88 Data

```
                     ISCST                (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0
    1     0     0     4     0     0    24     1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                     0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

```
              *** RUTLAND TEST - SLAMS                                               ***
CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                 ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                  ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                         ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                 ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                            ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                         ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                    ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                    ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                    ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                   ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                   ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                   ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                  ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                  ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                     ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                             ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                          ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                        ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)               ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)       ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)               ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)        ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                       ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                   ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)             ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                   ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                 ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                 ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                        ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                        ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                     ISW(31) =   0

NUMBER OF INPUT SOURCES                                                  NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                 NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)                 IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                                      NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                                      NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                         NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                       NHOURS =   24
NUMBER OF DAYS OF METEOROLOGICAL DATA                                 NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                             TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                     ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                             IMET =    5
ALLOCATED DATA STORAGE                                                LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                            MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                    *** RUTLAND TEST - SLAMS
                                                                         ***

                     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                              (METERS/SEC)

                                 1.54,   3.09,   5.14,.  8.23,  10.80,

                              *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                (METERS)
(   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
                  *** RUTLAND TEST - SLAMS                                        ***


                                 * ELEVATION HEIGHTS IN METERS *
                               * FOR THE DISCRETE RECEPTOR POINTS *
  - X -      - Y -        ELE.          - X -      - Y -        ELE.          - X -      - Y -        ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0    185.92836        2333.0    29357.0    161.54431        2666.0    30119.0    172.21234
   714.0    29583.0    166.11633
```

```
                                              APPENDIX G (cont.)
                                              (SLAMS 05/03/88)


                        *** RUTLAND TEST - SLAMS                                                ***

                                              *** SOURCE DATA ***

                    EMISSION RATE                                              TEMP.    EXIT VEL.
                      TYPE=0,1                                                TYPE=0    TYPE=0
            T W     (GRAMS/SEC)                                              (DEG.K);  (M/SEC);                 BLDG.     BLDG.     BLDG.
            Y A NUMBER  TYPE=2                               BASE            VERT.DIM  HORZ.DIM  DIAMETER   HEIGHT    LENGTH     WIDTH
    SOURCE  P K  PART.  (GRAMS/SEC)      X         Y         ELEV.    HEIGHT   TYPE=1   TYPE=1,2   TYPE=0    TYPE=0    TYPE=0    TYPE=0
    NUMBER  E E  CATS. *PER METER**2 (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

         1  0 0    0   0.10000E+01   1700.0   29700.0    169.0     50.30    327.60     15.24      1.04     10.97     73.20     48.80
```

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 124 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	295.0	1.00	939.0	278.0	0.0350	6	0.3000	0.000000E+00
2	182.0	1.00	939.0	278.0	0.0350	6	0.3000	0.000000E+00
3	8.0	1.00	939.0	278.0	0.0350	6	0.3000	0.000000E+00
4	103.0	1.00	939.0	278.0	0.0350	6	0.3000	0.000000E+00
5	171.0	1.00	969.0	278.0	0.0200	5	0.3000	0.000000E+00
6	48.0	1.00	1105.0	279.0	0.0000	4	0.2500	0.000000E+00
7	189.0	2.10	1240.0	280.0	0.0000	3	0.2000	0.000000E+00
8	19.0	2.10	1375.0	281.0	0.0000	4	0.2500	0.000000E+00
9	202.0	2.60	1511.0	282.0	0.0000	4	0.2500	0.000000E+00
10	94.0	2.60	1646.0	283.0	0.0000	4	0.2500	0.000000E+00
11	282.0	3.10	1781.0	284.0	0.0000	3	0.2000	0.000000E+00
12	208.0	4.10	1916.0	285.0	0.0000	2	0.1500	0.000000E+00
13	173.0	4.10	2052.0	285.0	0.0000	3	0.2000	0.000000E+00
14	217.0	4.10	2187.0	285.0	0.0000	4	0.2500	0.000000E+00
15	212.0	3.60	2187.0	286.0	0.0000	4	0.2500	0.000000E+00
16	199.0	3.60	2187.0	286.0	0.0000	4	0.2500	0.000000E+00
17	189.0	3.10	2187.0	285.0	0.0000	4	0.2500	0.000000E+00
18	183.0	3.60	2187.0	284.0	0.0000	4	0.2500	0.000000E+00
19	175.0	1.50	2126.0	283.0	0.0200	5	0.3000	0.000000E+00
20	208.0	1.00	1732.0	282.0	0.0350	6	0.3000	0.000000E+00
21	182.0	1.00	1338.0	280.0	0.0350	6	0.3000	0.000000E+00
22	192.0	1.00	945.0	279.0	0.0350	6	0.3000	0.000000E+00
23	218.0	1.00	551.0	278.0	0.0350	6	0.3000	0.000000E+00
24	210.0	1.00	157.0	278.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 05/03/88)

```
                                                                                         DAILY: 124
                                                                                         24-HR/PD  1
                         *** RUTLAND TEST - SLAMS                                 ***    SGROUP#   1

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                      * ENDING WITH HOUR 24 FOR DAY 124 *
                                            * FROM ALL SOURCES *
                                      * FOR THE DISCRETE RECEPTOR POINTS *
   - X -      - Y -          CON.          - X -      - Y -          CON.          - X -      - Y -          CON.
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1786.0    29952.0       0.78483        2333.0    29357.0       0.00528        2666.0    30119.0       0.01815
    714.0    29583.0       0.01687
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 05/27/88 Data

```
                ISCST                    (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1    10     16     0      0      0   24       1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02                                       0 0
 1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

```
           *** RUTLAND TEST - SLAMS                                                      ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                   ISW(1)  =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                    ISW(2)  =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                           ISW(3)  =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                   ISW(4)  =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                              ISW(5)  =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                           ISW(6)  =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                      ISW(7)  =   0
  2-HOUR (YES=1,NO=0)                                                      ISW(8)  =   0
  3-HOUR (YES=1,NO=0)                                                      ISW(9)  =   0
  4-HOUR (YES=1,NO=0)                                                     ISW(10)  =   0
  6-HOUR (YES=1,NO=0)                                                     ISW(11)  =   0
  8-HOUR (YES=1,NO=0)                                                     ISW(12)  =   0
  12-HOUR (YES=1,NO=0)                                                    ISW(13)  =   0
  24-HOUR (YES=1,NO=0)                                                    ISW(14)  =   1
PRINT 'N'-DAY TABLE(S)  (YES=1,NO=0)                                      ISW(15)  =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                               ISW(16)  =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                            ISW(17)  =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                          ISW(18)  =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                 ISW(19)  =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)         ISW(20)  =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                 ISW(21)  =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)          ISW(22)  =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                         ISW(23)  =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                     ISW(24)  =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)               ISW(25)  =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                     ISW(26)  =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                   ISW(27)  =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                   ISW(28)  =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                          ISW(29)  =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                          ISW(30)  =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                       ISW(31)  =   0

NUMBER OF INPUT SOURCES                                                    NSOURC  =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                   NGROUP  =   0
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)             IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                  NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                                  NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                     NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                   NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                             NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                         TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                 ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                         IMET =   5
ALLOCATED DATA STORAGE                                            LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                        MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
          *** RUTLAND TEST - SLAMS                                   ***

            *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                    (METERS/SEC)

                         1.54,   3.09,   5.14,   8.23,  10.80,

                           *** RANGES OF POLAR GRID SYSTEM ***
                                      (METERS)

 200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                          *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                      (DEGREES)

 360.0,      22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
 225.0,     247.5,     270.0,     292.5,     315.0,     337.5,
                  *** RUTLAND TEST - SLAMS                                                  ***


                                          * ELEVATION HEIGHTS IN METERS *
                                           * FOR THE RECEPTOR GRID *
 DIRECTION /
 (DEGREES) /                                                  RANGE (METERS)
                 200.0        500.0        1000.0       2000.0       5000.0       10000.0      20000.0      30000.0      40000.0
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /   179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
     315.0 /   176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
     292.5 /   167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
     270.0 /   161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
     247.5 /   158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
     225.0 /   164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
     202.5 /   158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
     180.0 /   158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
     157.5 /   158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
     135.0 /   158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
     112.5 /   158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
      90.0 /   161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
      67.5 /   167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
      45.0 /   170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
      22.5 /   182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
     360.0 /   179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

```
                         *** RUTLAND TEST - SLAMS                                  ***


                                         * ELEVATION HEIGHTS IN METERS *
                                          * FOR THE RECEPTOR GRID *

 DIRECTION /                                        RANGE (METERS)
 (DEGREES) /      50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /     121.92024
    315.0 /      91.44018
    292.5 /     304.80060
    270.0 /     304.80060
    247.5 /     182.88036
    225.0 /     152.40030
    202.5 /     487.68097
    180.0 /     304.80060
    157.5 /     701.04138
    135.0 /     365.76071
    112.5 /     457.20090
     90.0 /     304.80060
     67.5 /     304.80060
     45.0 /     304.80060
     22.5 /     609.60120
    360.0 /     518.16101
```

```
                   *** RUTLAND TEST - SLAMS                                                   ***

                                                    *** SOURCE DATA ***
                          EMISSION RATE
               T W           TYPE=0,1                                                   TEMP.      EXIT VEL.
               Y A NUMBER  (GRAMS/SEC)                                                  TYPE=0      TYPE=0
               P K  PART.     TYPE=2                              BASE                 (DEG.K);    (M/SEC);                BLDG.      BLDG.      BLDG.
      SOURCE   E E  CATS.  (GRAMS/SEC)      X           Y         ELEV.     HEIGHT     VERT.DIM    HORZ.DIM  DIAMETER    HEIGHT     LENGTH     WIDTH
      NUMBER               *PER METER**2 (METERS)    (METERS)   (METERS)   (METERS)    TYPE=1      TYPE=1,2   TYPE=0     TYPE=0     TYPE=0     TYPE=0
                                                                                       (METERS)    (METERS)  (METERS)   (METERS)   (METERS)   (METERS)
    - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
           1   0 0    0    0.10000E+01      0.0         0.0     169.0      50.30      327.60       15.24       1.04      10.97      73.20      48.80
```

MET. DATA
DAY 148

```
         *** RUTLAND TEST - SLAMS                                        ***

                          * METEOROLOGICAL DATA FOR DAY 148 *

                                                 POT. TEMP.
        FLOW       WIND                          GRADIENT                   WIND        DECAY
       VECTOR      SPEED    MIXING                (DEG. K    STABILITY    PROFILE    COEFFICIENT
HOUR  (DEGREES)    (MPS)    HEIGHT    TEMP.     PER METER)   CATEGORY    EXPONENT     (PER SEC)
                           (METERS)  (DEG. K)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1     208.0      1.00      331.0    282.0       0.0350        6         0.3000    0.000000E+00
  2     202.0      1.00      331.0    282.0       0.0350        6         0.3000    0.000000E+00
  3     208.0      1.00      331.0    282.0       0.0350        6         0.3000    0.000000E+00
  4     216.0      1.50      331.0    282.0       0.0350        6         0.3000    0.000000E+00
  5      24.0      1.00      451.0    283.0       0.0200        5         0.3000    0.000000E+00
  6     271.0      1.00      640.0    286.0       0.0000        4         0.2500    0.000000E+00
  7     217.0      2.10      829.0    290.0       0.0000        3         0.2000    0.000000E+00
  8      55.0      2.60     1017.0    291.0       0.0000        2         0.1500    0.000000E+00
  9      56.0      2.10     1206.0    293.0       0.0000        2         0.1500    0.000000E+00
 10     100.0      1.50     1395.0    295.0       0.0000        2         0.1500    0.000000E+00
 11     134.0      2.10     1584.0    296.0       0.0000        1         0.1500    0.000000E+00
 12     122.0      2.10     1772.0    297.0       0.0000        1         0.1500    0.000000E+00
 13     131.0      2.10     1961.0    298.0       0.0000        1         0.1500    0.000000E+00
 14     141.0      2.60     2150.0    299.0       0.0000        2         0.1500    0.000000E+00
 15      90.0      3.10     2150.0    299.0       0.0000        2         0.1500    0.000000E+00
 16      53.0      3.60     2150.0    299.0       0.0000        3         0.2000    0.000000E+00
 17      56.0      3.10     2150.0    298.0       0.0000        3         0.2000    0.000000E+00
 18      42.0      2.10     2150.0    297.0       0.0000        4         0.2500    0.000000E+00
 19      27.0      1.50     2150.0    296.0       0.0000        3         0.2000    0.000000E+00
 20     356.0      1.50     2150.0    296.0       0.0000        4         0.2500    0.000000E+00
 21      16.0      1.50     1431.0    294.0       0.0200        5         0.3000    0.000000E+00
 22      21.0      1.00     1016.0    292.0       0.0350        6         0.3000    0.000000E+00
 23      30.0      1.00      600.0    290.0       0.0350        6         0.3000    0.000000E+00
 24     169.0      1.00      185.0    290.0       0.0350        6         0.3000    0.000000E+00
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
                                                                                                    DAILY: 148
                                                                                                    24-HR/PD  1
                          *** RUTLAND TEST - SLAMS                                          ***     SGROUP#   1

                          * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)       *
                                       * ENDING WITH HOUR 24 FOR DAY 148 *
                                               * FROM ALL SOURCES *
                                             * FOR THE RECEPTOR GRID *

                       * MAXIMUM VALUE EQUALS      2.14251 AND OCCURRED AT (     200.0,      45.0) *

 DIRECTION /                                                  RANGE (METERS)
 (DEGREES) /       200.0       500.0      1000.0      2000.0      5000.0     10000.0     20000.0     30000.0     40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /      0.03464     0.06911     0.01583     0.00208     0.00004     0.00000     0.00000     0.00000     0.00000
    315.0 /      0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
    292.5 /      0.00194     0.02636     0.00948     0.00105     0.00001     0.00000     0.00000     0.00000     0.00000
    270.0 /      0.01956     0.57131     0.37585     0.14331     0.04273     0.02364     0.01541     0.01206     0.01010
    247.5 /      0.00591     0.01205     0.00353     0.00035     0.00000     0.00000     0.00000     0.00000     0.00000
    225.0 /      0.32737     0.27739     0.16294     0.08664     0.01156     0.00290     0.00077     0.00027     0.00010
    202.5 /      0.12902     0.46348     1.33634     1.06344     0.27447     0.09862     0.03972     0.02521     0.01862
    180.0 /      0.01280     0.05008     0.04934     0.03591     0.00182     0.00004     0.00000     0.00000     0.00000
    157.5 /      0.58130     0.29572     0.08739     0.02226     0.00196     0.00031     0.00004     0.00001     0.00000
    135.0 /      1.64362     0.71649     0.18623     0.04243     0.01139     0.00663     0.00386     0.00281     0.00223
    112.5 /      1.38659     0.67121     0.16901     0.03438     0.00741     0.00291     0.00087     0.00033     0.00014
     90.0 /      0.97261     0.43267     0.11057     0.02385     0.00652     0.00345     0.00168     0.00107     0.00079
     67.5 /      1.63399     0.65162     0.17290     0.03928     0.00856     0.00303     0.00085     0.00030     0.00012
     45.0 /      2.14251     1.36238     0.42125     0.12421     0.02868     0.01046     0.00361     0.00172     0.00096
     22.5 /      1.18193     2.01562     1.24323     0.94877     0.38227     0.14937     0.06040     0.03509     0.02339
    360.0 /      0.43960     0.87127     0.31928     0.09539     0.02173     0.00729     0.00222     0.00098     0.00051
```

```
                                                                                                     DAILY: 148
                                                                                                     24-HR/PD  1
                           *** RUTLAND TEST - SLAMS                                      ***         SGROUP#   1

                           * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                       * ENDING WITH HOUR 24 FOR DAY 148 *
                                             * FROM ALL SOURCES *
                                           * FOR THE RECEPTOR GRID *

                        * MAXIMUM VALUE EQUALS      2.14251 AND OCCURRED AT (     200.0,      45.0) *
 DIRECTION /
 (DEGREES) /      50000.0                                  RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /       0.00000
    315.0 /       0.00000
    292.5 /       0.00000
    270.0 /       0.00877
    247.5 /       0.00000
    225.0 /       0.00004
    202.5 /       0.01478
    180.0 /       0.00000
    157.5 /       0.00000
    135.0 /       0.00186
    112.5 /       0.00006
     90.0 /       0.00064
     67.5 /       0.00005
     45.0 /       0.00060
     22.5 /       0.01678
    360.0 /       0.00029
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 05/27/88 Data

```
              ISCST                (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
     1     0     0     4     0     0    24     1
  0.17860E+04  0.29952E+05  0.61000E+03
  0.23330E+04  0.29357E+05  0.53000E+03
  0.26660E+04  0.30119E+05  0.56500E+03
  0.71400E+03  0.29583E+05  0.54500E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02
                                                                    0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
              *** RUTLAND TEST - SLAMS                                                  ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                 ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                        ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                           ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                        ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                   ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                   ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                   ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                  ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                  ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                  ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                 ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                 ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                    ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                            ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                         ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                       ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)              ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)      ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)              ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)       ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                      ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                  ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)            ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                  ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                       ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                       ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                    ISW(31) =   0

NUMBER OF INPUT SOURCES                                                 NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)              IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                   NXPNTS =   0
NUMBER OF Y (THETA) GRID VALUES                                   NYPNTS =   0
NUMBER OF DISCRETE RECEPTORS                                      NXWYPT =   4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                    NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                              NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                          TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                  ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                          IMET =   5
ALLOCATED DATA STORAGE                                             LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                         MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
*** RUTLAND TEST - SLAMS                                          ***

      *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                               (METERS/SEC)

                1.54,    3.09,    5.14,    8.23,   10.80,

                    *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                  (METERS)

 (    1786.0,  29952.0),  (    2333.0,  29357.0),  (    2666.0,  30119.0),  (     714.0,  29583.0),  (
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
                         *** RUTLAND TEST - SLAMS                                        ***

                                        * ELEVATION HEIGHTS IN METERS *
                                       * FOR THE DISCRETE RECEPTOR POINTS *
    - X -      - Y -        ELE.          - X -      - Y -        ELE.          - X -      - Y -        ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    1786.0    29952.0    185.92836       2333.0    29357.0    161.54431       2666.0    30119.0    172.21234
     714.0    29583.0    166.11633
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

```
                *** RUTLAND TEST - SLAMS                                          ***

                                            *** SOURCE DATA ***

                  EMISSION RATE
                    TYPE=0,1                                          TEMP.     EXIT VEL.
          T W     (GRAMS/SEC)                                         TYPE=0      TYPE=0
          Y A NUMBER TYPE=2                           BASE            (DEG.K);  (M/SEC);
  SOURCE  P K  PART. (GRAMS/SEC)     X          Y     ELEV.   HEIGHT  VERT.DIM  HORZ.DIM DIAMETER  BLDG.    BLDG.     BLDG.
  NUMBER  E E  CATS. *PER METER**2 (METERS)  (METERS) (METERS) (METERS) TYPE=1  TYPE=1,2  TYPE=0   HEIGHT   LENGTH    WIDTH
                                                                      (METERS)  (METERS) (METERS)  TYPE=0   TYPE=0    TYPE=0
                                                                                                   (METERS) (METERS)  (METERS)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1   0 0    0   0.10000E+01    1700.0   29700.0   169.0    50.30   327.60     15.24     1.04    10.97    73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 05/27/88)

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 148 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	208.0	1.00	331.0	282.0	0.0350	6	0.3000	0.000000E+00
2	202.0	1.00	331.0	282.0	0.0350	6	0.3000	0.000000E+00
3	208.0	1.00	331.0	282.0	0.0350	6	0.3000	0.000000E+00
4	216.0	1.50	331.0	282.0	0.0350	6	0.3000	0.000000E+00
5	24.0	1.00	451.0	283.0	0.0200	5	0.3000	0.000000E+00
6	271.0	1.00	640.0	286.0	0.0000	4	0.2500	0.000000E+00
7	217.0	2.10	829.0	290.0	0.0000	3	0.2000	0.000000E+00
8	55.0	2.60	1017.0	291.0	0.0000	2	0.1500	0.000000E+00
9	56.0	2.10	1206.0	293.0	0.0000	2	0.1500	0.000000E+00
10	100.0	1.50	1395.0	295.0	0.0000	2	0.1500	0.000000E+00
11	134.0	2.10	1584.0	296.0	0.0000	1	0.1500	0.000000E+00
12	122.0	2.10	1772.0	297.0	0.0000	1	0.1500	0.000000E+00
13	131.0	2.10	1961.0	298.0	0.0000	1	0.1500	0.000000E+00
14	141.0	2.60	2150.0	299.0	0.0000	2	0.1500	0.000000E+00
15	90.0	3.10	2150.0	299.0	0.0000	2	0.1500	0.000000E+00
16	53.0	3.60	2150.0	299.0	0.0000	3	0.2000	0.000000E+00
17	56.0	3.10	2150.0	298.0	0.0000	3	0.2000	0.000000E+00
18	42.0	2.10	2150.0	297.0	0.0000	4	0.2500	0.000000E+00
19	27.0	1.50	2150.0	296.0	0.0000	3	0.2000	0.000000E+00
20	356.0	1.50	2150.0	295.0	0.0000	4	0.2500	0.000000E+00
21	16.0	1.50	1431.0	294.0	0.0200	5	0.3000	0.000000E+00
22	21.0	1.00	1016.0	292.0	0.0350	6	0.3000	0.000000E+00
23	30.0	1.00	600.0	290.0	0.0350	6	0.3000	0.000000E+00
24	169.0	1.00	185.0	290.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                   DAILY: 148
                                                                                   24-HR/PD  1
            *** RUTLAND TEST - SLAMS                                    ***        SGROUP#   1

            * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)    *
                          * ENDING WITH HOUR 24 FOR DAY 148 *
                                 * FROM ALL SOURCES *
                          * FOR THE DISCRETE RECEPTOR POINTS *
   - X -      - Y -      CON.          - X -      - Y -      CON.          - X -      - Y -      CON.
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  1786.0    29952.0    1.11584        2333.0    29357.0    0.36940        2666.0    30119.0    0.15925
   714.0    29583.0    0.23149
```

APPENDIX G

ISCST Modeling Results for Polar Receptors Using SLAMS 06/08/88 Data

```
                ISCST                (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
  1    10      16      0      0     0    24     1
  0.20000E+03   0.50000E+03   0.10000E+04   0.20000E+04   0.50000E+04   0.10000E+05   0.20000E+05   0.30000E+05
  0.40000E+05   0.50000E+05
  0.00000E+00   0.22500E+02   0.45000E+02   0.67500E+02   0.90000E+02   0.11250E+03   0.13500E+03   0.15750E+03
  0.18000E+03   0.20250E+03   0.22500E+03   0.24750E+03   0.27000E+03   0.29250E+03   0.31500E+03   0.33750E+03
  0.59000E+03   0.64500E+03   0.75000E+03   0.75000E+03   0.73000E+03   0.54000E+03   0.15000E+04   0.28000E+04
  0.17000E+04   0.17000E+04
  0.60000E+03   0.62000E+03   0.56000E+03   0.58000E+03   0.72000E+03   0.10600E+04   0.28000E+04   0.15000E+04
  0.20000E+04   0.20000E+04
  0.56000E+03   0.58000E+03   0.54500E+03   0.58000E+03   0.78500E+03   0.23200E+04   0.14000E+04   0.20000E+04
  0.10000E+04   0.10000E+04
  0.55000E+03   0.54000E+03   0.56000E+03   0.64000E+03   0.81000E+03   0.15600E+04   0.21000E+04   0.20000E+04
  0.16000E+04   0.10000E+04
  0.53000E+03   0.52000E+03   0.54000E+03   0.63000E+03   0.90000E+03   0.22000E+04   0.12000E+04   0.15000E+04
  0.14000E+04   0.10000E+04
  0.52000E+03   0.52000E+03   0.54500E+03   0.54000E+03   0.94000E+03   0.19000E+04   0.20000E+04   0.18000E+04
  0.10000E+04   0.15000E+04
  0.52000E+03   0.52000E+03   0.52000E+03   0.54000E+03   0.70000E+03   0.20800E+04   0.21000E+04   0.23000E+04
  0.20000E+04   0.12000E+04
  0.52000E+03   0.56000E+03   0.53000E+03   0.52000E+03   0.56000E+03   0.69000E+03   0.16000E+04   0.24000E+04
  0.15000E+04   0.23000E+04
  0.52000E+03   0.58000E+03   0.55000E+03   0.73000E+03   0.83000E+03   0.12100E+04   0.13000E+04   0.12000E+04
  0.10000E+04   0.10000E+04
  0.52000E+03   0.56000E+03   0.60000E+03   0.83000E+03   0.87000E+03   0.16500E+04   0.17000E+04   0.10000E+04
  0.14000E+04   0.16000E+04
  0.54000E+03   0.53000E+03   0.55000E+03   0.77000E+03   0.70000E+03   0.11800E+04   0.15000E+04   0.50000E+03
  0.10000E+04   0.50000E+03
  0.52000E+03   0.52000E+03   0.52500E+03   0.55000E+03   0.62000E+03   0.15200E+04   0.50000E+03   0.80000E+03
  0.30000E+03   0.60000E+03
  0.53000E+03   0.55000E+03   0.55000E+03   0.49000E+03   0.50000E+03   0.58000E+03   0.50000E+03   0.50000E+03
  0.14000E+04   0.10000E+04
  0.55000E+03   0.58000E+03   0.62000E+03   0.48000E+03   0.61000E+03   0.11400E+04   0.50000E+03   0.70000E+03
  0.50000E+03   0.10000E+04
  0.58000E+03   0.62000E+03   0.70000E+03   0.67000E+03   0.48000E+03   .0.92000E+03  0.14000E+04   0.60000E+03
  0.25000E+03   0.30000E+03
  0.59000E+03   0.66000E+03   0.78000E+03   0.96000E+03   0.11000E+04   0.43000E+03   0.50000E+03   0.50000E+03
  0.40000E+03   0.40000E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02
                                                        0 0
1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
          *** RUTLAND TEST - SLAMS                                              ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                             ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)              ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                     ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                             ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                        ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                     ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                               ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                               ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                               ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                              ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                              ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                 ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                         ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                      ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                    ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)           ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)   ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)           ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)    ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                   ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)               ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)         ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)               ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)             ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                             ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                    ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                    ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                 ISW(31) =   0

NUMBER OF INPUT SOURCES                                             NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                            NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)             IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                  NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                                  NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                     NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                   NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                             NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                         TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                 ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                         IMET =   5
ALLOCATED DATA STORAGE                                            LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                        MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
                 *** RUTLAND TEST - SLAMS                                        ***

                   *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                          (METERS/SEC)

                                1.54,   3.09,   5.14,   8.23,  10.80,

                               *** RANGES OF POLAR GRID SYSTEM ***
                                            (METERS)
   200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                              *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                            (DEGREES)
   360.0,      22.5,      45.0,      67.5,      90.0,     112.5,
   225.0,     247.5,     270.0,     292.5,     315.0,     337.5,     135.0,     157.5,     180.0,     202.5,
                                        APPENDIX G (cont.)
                                        (SLAMS 06/08/88)

                    *** RUTLAND TEST - SLAMS                                              ***


                                   * ELEVATION HEIGHTS IN METERS *
                                     * FOR THE RECEPTOR GRID *

 DIRECTION /                                             RANGE (METERS)
 (DEGREES) /      200.0        500.0       1000.0       2000.0       5000.0      10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /    179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
    315.0 /    176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
    292.5 /    167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
    270.0 /    161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
    247.5 /    158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
    225.0 /    164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
    202.5 /    158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
    180.0 /    158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
    157.5 /    158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
    135.0 /    158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
    112.5 /    158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
     90.0 /    161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
     67.5 /    167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
     45.0 /    170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
     22.5 /    182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
    360.0 /    179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

```
       *** RUTLAND TEST - SLAMS                                                ***


                                    * ELEVATION HEIGHTS IN METERS *
                                      * FOR THE RECEPTOR GRID *
DIRECTION /
(DEGREES) /     50000.0                              RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /   121.92024
    315.0 /    91.44018
    292.5 /   304.80060
    270.0 /   304.80060
    247.5 /   182.88036
    225.0 /   152.40030
    202.5 /   487.68097
    180.0 /   304.80060
    157.5 /   701.04138
    135.0 /   365.76071
    112.5 /   457.20090
     90.0 /   304.80060
     67.5 /   304.80060
     45.0 /   304.80060
     22.5 /   609.60120
    360.0 /   518.16101
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
                        *** RUTLAND TEST - SLAMS                                     ***

                                                 *** SOURCE DATA ***

                   EMISSION RATE                                                   TEMP.    EXIT VEL.
                      TYPE=0,1                                                     TYPE=0    TYPE=0
           T W     (GRAMS/SEC)                                                    (DEG.K);  (M/SEC);              BLDG.     BLDG.     BLDG.
           Y A NUMBER  TYPE=2                               BASE                  VERT.DIM  HORZ.DIM DIAMETER   HEIGHT    LENGTH     WIDTH
   SOURCE  P K  PART.  (GRAMS/SEC)        X         Y       ELEV.     HEIGHT      TYPE=1    TYPE=1,2  TYPE=0    TYPE=0    TYPE=0    TYPE=0
   NUMBER  E E  CATS. *PER METER**2  (METERS)  (METERS)  (METERS)  (METERS)    (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

        1  0 0     0  0.10000E+01       0.0       0.0     169.0     50.30      327.60     15.24     1.04     10.97     73.20     48.80
```

```
     *** RUTLAND TEST - SLAMS                                               ***

                         * METEOROLOGICAL DATA FOR DAY 160 *

                                                     POT. TEMP.
           FLOW       WIND     MIXING                GRADIENT                   WIND        DECAY
          VECTOR      SPEED    HEIGHT       TEMP.    (DEG. K     STABILITY     PROFILE    COEFFICIENT
  HOUR  (DEGREES)     (MPS)   (METERS)    (DEG. K)  PER METER)    CATEGORY     EXPONENT    (PER SEC)
  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    1     188.0       1.00      739.0      278.0      0.0350         6         0.3000    0.000000E+00
    2     191.0       1.00      739.0      277.0      0.0350         6         0.3000    0.000000E+00
    3     202.0       1.00      739.0      277.0      0.0350         6         0.3000    0.000000E+00
    4     199.0       1.00      739.0      276.0      0.0350         6         0.3000    0.000000E+00
    5     204.0       1.00      737.0      278.0      0.0350         6         0.3000    0.000000E+00
    6     195.0       1.00      735.0      281.0      0.0200         5         0.3000    0.000000E+00
    7     125.0       1.00      732.0      284.0      0.0000         4         0.2500    0.000000E+00
    8     345.0       2.60      729.0      286.0      0.0000         3         0.2000    0.000000E+00
    9     208.0       2.60      727.0      287.0      0.0000         2         0.1500    0.000000E+00
   10     209.0       3.10      724.0      288.0      0.0000         2         0.1500    0.000000E+00
   11     214.0       3.10      722.0      289.0      0.0000         2         0.1500    0.000000E+00
   12     223.0       3.10      719.0      290.0      0.0000         2         0.1500    0.000000E+00
   13     204.0       3.10      717.0      290.0      0.0000         2         0.1500    0.000000E+00
   14     199.0       3.10      714.0      290.0      0.0000         2         0.1500    0.000000E+00
   15     204.0       3.10      714.0      290.0      0.0000         2         0.1500    0.000000E+00
   16     191.0       3.10      714.0      290.0      0.0000         3         0.2000    0.000000E+00
   17     193.0       3.60      714.0      289.0      0.0000         4         0.2500    0.000000E+00
   18     196.0       3.10      714.0      288.0      0.0000         4         0.2500    0.000000E+00
   19     193.0       2.60      714.0      287.0      0.0000         4         0.2500    0.000000E+00
   20     195.0       1.00      772.0      285.0      0.0200         5         0.3000    0.000000E+00
   21     197.0       1.00      874.0      284.0      0.0350         6         0.3000    0.000000E+00
   22     184.0       1.00      976.0      283.0      0.0350         6         0.3000    0.000000E+00
   23      80.0       1.00     1077.0      282.0      0.0350         6         0.3000    0.000000E+00
   24      94.0       1.00     1179.0      282.0      0.0350         6         0.3000    0.000000E+00
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
                                                                                                DAILY: 160
                                                                                                24-HR/PD  1
                                                                                                SGROUP#   1
                          *** RUTLAND TEST - SLAMS                                     ***

                          * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                          * ENDING WITH HOUR 24 FOR DAY 160 *
                                                 * FROM ALL SOURCES *
                                              * FOR THE RECEPTOR GRID *

                       * MAXIMUM VALUE EQUALS      3.15733 AND OCCURRED AT (    1000.0,     202.5) *

 DIRECTION /                                               RANGE (METERS)
 (DEGREES) /       200.0        500.0        1000.0       2000.0       5000.0      10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /       0.57507      0.27148      0.07561      0.01989      0.00548      0.00236      0.00070      0.00025      0.00010
    315.0 /       0.01564      0.00729      0.00125      0.00011      0.00000      0.00000      0.00000      0.00000      0.00000
    292.5 /       0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    270.0 /       0.00067      0.00046      0.00006      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    247.5 /       0.17770      0.08312      0.01749      0.00323      0.00047      0.00005      0.00000      0.00000      0.00000
    225.0 /       1.75321      0.61775      0.15180      0.04342      0.01592      0.00708      0.00330      0.00227      0.00180
    202.5 /       2.43520      2.34634      3.15733      2.38574      0.64240      0.23986      0.09167      0.05278      0.03582
    180.0 /       0.82756      1.06960      0.67349      0.60685      0.12341      0.03260      0.00645      0.00185      0.00061
    157.5 /       0.00632      0.00497      0.00073      0.00005      0.00000      0.00000      0.00000      0.00000      0.00000
    135.0 /       0.00631      0.21867      0.15447      0.05172      0.00729      0.00109      0.00007      0.00000      0.00000
    112.5 /       0.00395      0.13228      0.09219      0.02461      0.00209      0.00013      0.00000      0.00000      0.00000
     90.0 /       0.00001      0.04732      0.32521      0.35999      0.10283      0.02998      0.00628      0.00183      0.00061
     67.5 /       0.00001      0.00603      0.02081      0.00960      0.00028      0.00000      0.00000      0.00000      0.00000
     45.0 /       0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
     22.5 /       0.00166      0.00053      0.00006      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    360.0 /       0.32359      0.14687      0.03767      0.00804      0.00116      0.00018      0.00001      0.00000      0.00000
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
                                                                                DAILY: 160
                                                                                24-HR/PD  1
                    *** RUTLAND TEST - SLAMS                                ***  SGROUP#   1

                    * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                  * ENDING WITH HOUR 24 FOR DAY 160 *
                                        * FROM ALL SOURCES *
                                      * FOR THE RECEPTOR GRID *

                  * MAXIMUM VALUE EQUALS      3.15733 AND OCCURRED AT (    1000.0,     202.5) *
 DIRECTION /
 (DEGREES) /      50000.0                        RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /       0.00004
    315.0 /       0.00000
    292.5 /       0.00000
    270.0 /       0.00000
    247.5 /       0.00000
    225.0 /       0.00152
    202.5 /       0.02661
    180.0 /       0.00022
    157.5 /       0.00000
    135.0 /       0.00000
    112.5 /       0.00000
     90.0 /       0.00022
     67.5 /       0.00000
     45.0 /       0.00000
     22.5 /       0.00000
    360.0 /       0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 06/08/88 Data

```
                ISCST                  (DATED 88348)
1 2 1 1 0 2 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1     0      0    4      0     0    24        1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
                                                                0 0
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
          *** RUTLAND TEST - SLAMS                                                        ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                 ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                        ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                           ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                        ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                   ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                   ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                   ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                  ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                  ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                  ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                 ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                 ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                    ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                            ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                         ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                       ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)              ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)      ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)              ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)       ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                      ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                  ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)            ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                  ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                       ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                       ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                    ISW(31) =   0

NUMBER OF INPUT SOURCES                                                NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                               NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)          IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                               NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                               NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                  NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                NHOURS =   24
NUMBER OF DAYS OF METEOROLOGICAL DATA                          NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                      TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED              ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                      IMET =    5
ALLOCATED DATA STORAGE                                         LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                     MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
                    *** RUTLAND TEST - SLAMS                                        ***

                     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                 (METERS/SEC)

                                  1.54,   3.09,   5.14,   8.23,  10.80,

                                    *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                   (METERS)

(   1786.0,  29952.0),  (   2333.0,  29357.0),  (  2666.0,  30119.0),  (    714.0,  29583.0),  (
               *** RUTLAND TEST - SLAMS                                        ***


                                  * ELEVATION HEIGHTS IN METERS *
                                 * FOR THE DISCRETE RECEPTOR POINTS *
   - X -     - Y -       ELE.           - X -    - Y -      ELE.          - X -    - Y -      ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1786.0    29952.0    185.92836       2333.0   29357.0    161.54431     2666.0   30119.0    172.21234
    714.0    29583.0    166.11633
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
                        *** RUTLAND TEST - SLAMS                                              ***

                                                     *** SOURCE DATA ***

                     EMISSION RATE                                                 TEMP.     EXIT VEL.
                       TYPE=0,1                                                   TYPE=0     TYPE=0
          T W        (GRAMS/SEC)                                                 (DEG.K);   (M/SEC);              BLDG.      BLDG.      BLDG.
          Y A NUMBER   TYPE=2                                  BASE               VERT.DIM   HORZ.DIM  DIAMETER   HEIGHT     LENGTH     WIDTH
 SOURCE   P K  PART.  (GRAMS/SEC)      X          Y          ELEV.     HEIGHT     TYPE=1     TYPE=1,2   TYPE=0     TYPE=0     TYPE=0     TYPE=0
 NUMBER   E E  CATS.  *PER METER**2 (METERS)   (METERS)   (METERS)   (METERS)   (METERS)   (METERS)   (METERS)   (METERS)   (METERS)   (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1   0 0     0   0.10000E+01    1700.0    29700.0     169.0      50.30     327.60      15.24       1.04      10.97      73.20      48.80
```

APPENDIX G (cont.)
(SLAMS 06/08/88)

```
*** RUTLAND TEST - SLAMS                                                                         MET.  DATA
                                                                            ***                 DAY 160

                               * METEOROLOGICAL DATA FOR DAY 160 *

          FLOW                                 POT. TEMP.
         VECTOR     WIND     MIXING            GRADIENT                  WIND
 HOUR  (DEGREES)   SPEED     HEIGHT    TEMP.    (DEG. K   STABILITY   PROFILE       DECAY
                   (MPS)    (METERS)  (DEG. K) PER METER)  CATEGORY   EXPONENT   COEFFICIENT
                                                                                  (PER SEC)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
   1     188.0     1.00      739.0     278.0    0.0350        6        0.3000    0.000000E+00
   2     191.0     1.00      739.0     277.0    0.0350        6        0.3000    0.000000E+00
   3     202.0     1.00      739.0     277.0    0.0350        6        0.3000    0.000000E+00
   4     199.0     1.00      739.0     276.0    0.0350        6        0.3000    0.000000E+00
   5     204.0     1.00      737.0     278.0    0.0350        6        0.3000    0.000000E+00
   6     195.0     1.00      735.0     281.0    0.0200        5        0.3000    0.000000E+00
   7     125.0     1.00      732.0     284.0    0.0000        4        0.2500    0.000000E+00
   8     345.0     2.60      729.0     286.0    0.0000        3        0.2000    0.000000E+00
   9     208.0     2.60      727.0     287.0    0.0000        2        0.1500    0.000000E+00
  10     209.0     3.10      724.0     288.0    0.0000        2        0.1500    0.000000E+00
  11     214.0     3.10      722.0     289.0    0.0000        2        0.1500    0.000000E+00
  12     223.0     3.10      719.0     290.0    0.0000        2        0.1500    0.000000E+00
  13     204.0     3.10      717.0     290.0    0.0000        2        0.1500    0.000000E+00
  14     199.0     3.10      714.0     290.0    0.0000        2        0.1500    0.000000E+00
  15     204.0     3.10      714.0     290.0    0.0000        2        0.1500    0.000000E+00
  16     191.0     3.10      714.0     290.0    0.0000        3        0.2000    0.000000E+00
  17     193.0     3.60      714.0     289.0    0.0000        4        0.2500    0.000000E+00
  18     196.0     3.10      714.0     288.0    0.0000        4        0.2500    0.000000E+00
  19     193.0     2.60      714.0     287.0    0.0000        4        0.2500    0.000000E+00
  20     195.0     1.00      772.0     285.0    0.0200        5        0.3000    0.000000E+00
  21     197.0     1.00      874.0     284.0    0.0350        6        0.3000    0.000000E+00
  22     184.0     1.00      976.0     283.0    0.0350        6        0.3000    0.000000E+00
  23      80.0     1.00     1077.0     282.0    0.0350        6        0.3000    0.000000E+00
  24      94.0     1.00     1179.0     282.0    0.0350        6        0.3000    0.000000E+00
```

```
                                                                                              DAILY: 160
                                                                                              24-HR/PD  1
                    *** RUTLAND TEST - SLAMS                                      ***         SGROUP#   1

                    * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)    *
                                  * ENDING WITH HOUR 24 FOR DAY 160 *
                                       * FROM ALL SOURCES *
                                 * FOR THE DISCRETE RECEPTOR POINTS *
  - X -      - Y -       CON.            - X -      - Y -       CON.            - X -      - Y -       CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1786.0    29952.0     0.00587          2333.0    29357.0     0.34155          2666.0    30119.0     0.01691
    714.0    29583.0     0.00068
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 06/20/88 Data

```
                    ISCST                    (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1    10     16      0       0       0      24       1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02
                                                           0 0
 1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 06/20/88)

```
          *** RUTLAND TEST - SLAMS                                                     ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                   ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                    ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                           ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                   ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                              ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                           ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                      ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                      ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                      ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                     ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                     ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                     ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                    ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                    ISW(14) =   1
PRINT 'N'-DAY TABLE(S)  (YES=1,NO=0)                                      ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                               ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                            ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                          ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                 ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)         ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                 ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)          ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                         ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                     ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)               ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                     ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                   ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                   ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                          ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                          ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                       ISW(31) =   0

NUMBER OF INPUT SOURCES                                                    NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                   NGROUP =   0
```

APPENDIX G (cont.)

(SLAMS 06/20/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)          IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                               NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                               NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                  NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                          NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                      TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED              ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                      IMET =   5
ALLOCATED DATA STORAGE                                         LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                     MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 06/20/88)

```
              *** RUTLAND TEST - SLAMS                                        ***

               *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                        (METERS/SEC)

                               1.54,   3.09,   5.14,   8.23,  10.80,

                                *** RANGES OF POLAR GRID SYSTEM ***
                                             (METERS)

 200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                              *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                            (DEGREES)

 360.0,      22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
 225.0,     247.5,     270.0,     292.5,     315.0,     337.5,
```

APPENDIX G (cont.)
(SLAMS 06/20/88)

```
                   *** RUTLAND TEST - SLAMS                                                    ***


                                                  * ELEVATION HEIGHTS IN METERS *
                                                    * FOR THE RECEPTOR GRID *
 DIRECTION /
 (DEGREES) /                                                        RANGE (METERS)
                 200.0          500.0          1000.0         2000.0         5000.0         10000.0        20000.0        30000.0        40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /    179.83235      201.16840      237.74446      292.60858      335.28067      131.06425      152.40030      152.40030      121.92024
    315.0 /    176.78435      188.97638      213.36041      204.21640      146.30429      280.41656      426.72083      182.88036       76.20015
    292.5 /    167.64034      176.78435      188.97638      146.30429      185.92836      347.47269      152.40030      213.36041      152.40030
    270.0 /    161.54431      167.64034      167.64034      149.35229      152.40030      176.78435      152.40030      152.40030      426.72083
    247.5 /    158.49631      158.49631      160.02031      167.64034      188.97638      463.29691      152.40030      243.84048       91.44018
    225.0 /    164.59233      161.54431      167.64034      234.69646      213.36041      359.66470      457.20090      152.40030      304.80060
    202.5 /    158.49631      170.68834      182.88036      252.98450      265.17651      502.92099      518.16101      304.80060      426.72083
    180.0 /    158.49631      176.78435      167.64034      222.50444      252.98450      368.80872      396.24078      365.76071      304.80060
    157.5 /    158.49631      170.68834      161.54431      158.49631      170.68834      210.31241      487.68097      731.52142      457.20090
    135.0 /    158.49631      158.49631      158.49631      164.59233      213.36041      633.98523      640.08124      701.04138      609.60120
    112.5 /    158.49631      158.49631      166.11633      164.59233      286.51257      579.12115      609.60120      548.64105      304.80060
     90.0 /    161.54431      158.49631      164.59233      192.02438      274.32053      670.56134      365.76071      457.20090      426.72083
     67.5 /    167.64034      164.59233      170.68834      195.07239      246.88849      475.48892      640.08124      609.60120      487.68097
     45.0 /    170.68834      176.78435      166.11633      176.78435      239.26848      707.13739      426.72083      609.60120      304.80060
     22.5 /    182.88036      188.97638      170.68834      176.78435      219.45644      323.08862      853.44165      457.20090      609.60120
    360.0 /    179.83235      196.59639      228.60045      228.60045      222.50444      164.59233      457.20090      853.44165      518.16101
```

```
                                        APPENDIX G (cont.)
                                        (SLAMS 06/20/88)

                *** RUTLAND TEST - SLAMS                                            ***


                                 * ELEVATION HEIGHTS IN METERS *
                                   * FOR THE RECEPTOR GRID *

 DIRECTION /                                        RANGE (METERS)
 (DEGREES) /      50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /    121.92024
     315.0 /     91.44018
     292.5 /    304.80060
     270.0 /    304.80060
     247.5 /    182.88036
     225.0 /    152.40030
     202.5 /    487.68097
     180.0 /    304.80060
     157.5 /    701.04138
     135.0 /    365.76071
     112.5 /    457.20090
      90.0 /    304.80060
      67.5 /    304.80060
      45.0 /    304.80060
      22.5 /    609.60120
     360.0 /    518.16101
```

```
                *** RUTLAND TEST - SLAMS                                      ***

                                        *** SOURCE DATA ***

                 EMISSION RATE                                           TEMP.    EXIT VEL.
                   TYPE=0,1                                              TYPE=0    TYPE=0
        T W      (GRAMS/SEC)                                            (DEG.K);  (M/SEC);            BLDG.    BLDG.     BLDG.
        Y A NUMBER  TYPE=2                            BASE              VERT.DIM  HORZ.DIM DIAMETER  HEIGHT   LENGTH    WIDTH
 SOURCE P K  PART.  (GRAMS/SEC)     X         Y       ELEV.    HEIGHT    TYPE=1   TYPE=1,2  TYPE=0   TYPE=0   TYPE=0    TYPE=0
 NUMBER E E  CATS. *PER METER**2 (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS) (METERS) (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1 0 0    0   0.10000E+01     0.0       0.0     169.0     50.30    327.60     15.24      1.04    10.97    73.20     48.80
```

```
                              APPENDIX G (cont.)
                              (SLAMS 06/20/88)
                                                                               MET.  DATA
          *** RUTLAND TEST - SLAMS                                  ***       DAY 172

                        * METEOROLOGICAL DATA FOR DAY 172 *

                                              POT. TEMP.
         FLOW      WIND     MIXING            GRADIENT                  WIND
        VECTOR     SPEED    HEIGHT    TEMP.   (DEG. K   STABILITY     PROFILE       DECAY
 HOUR (DEGREES)   (MPS)    (METERS) (DEG. K) PER METER)  CATEGORY     EXPONENT   COEFFICIENT
                                                                                  (PER SEC)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1    183.0     1.00      560.0    288.0    0.0350        6         0.3000    0.000000E+00
   2    189.0     1.00      560.0    288.0    0.0350        6         0.3000    0.000000E+00
   3    203.0     1.00      560.0    288.0    0.0350        6         0.3000    0.000000E+00
   4    167.0     1.00      560.0    289.0    0.0350        6         0.3000    0.000000E+00
   5     61.0     1.00      733.0    292.0    0.0350        6         0.3000    0.000000E+00
   6    331.0     2.60      969.0    296.0    0.0200        5         0.3000    0.000000E+00
   7     22.0     3.60     1205.0    297.0    0.0000        4         0.2500    0.000000E+00
   8     31.0     3.10     1440.0    299.0    0.0000        3         0.2000    0.000000E+00
   9     41.0     3.10     1676.0    300.0    0.0000        2         0.1500    0.000000E+00
  10     38.0     3.60     1912.0    301.0    0.0000        2         0.1500    0.000000E+00
  11     52.0     2.10     2148.0    303.0    0.0000        1         0.1500    0.000000E+00
  12     57.0     1.00     2383.0    303.0    0.0000        1         0.1500    0.000000E+00
  13     62.0     4.10     2619.0    303.0    0.0000        2         0.1500    0.000000E+00
  14     42.0     5.70     2855.0    305.0    0.0000        3         0.2000    0.000000E+00
  15     62.0     2.10     2855.0    305.0    0.0000        3         0.2000    0.000000E+00
  16     68.0     2.10     2855.0    305.0    0.0000        2         0.1500    0.000000E+00
  17     68.0     3.60     2855.0    304.0    0.0000        3         0.2000    0.000000E+00
  18     76.0     3.60     2855.0    303.0    0.0000        4         0.2500    0.000000E+00
  19     73.0     3.60     2855.0    303.0    0.0000        4         0.2500    0.000000E+00
  20     78.0     2.60     2601.0    302.0    0.0200        5         0.3000    0.000000E+00
  21     64.0     2.60     2076.0    302.0    0.0200        5         0.3000    0.000000E+00
  22     75.0     2.10     1551.0    298.0    0.0200        5         0.3000    0.000000E+00
  23     56.0     1.50     1025.0    297.0    0.0350        6         0.3000    0.000000E+00
  24     67.0     1.50      500.0    297.0    0.0350        6         0.3000    0.000000E+00
```

APPENDIX G (cont.)
(SLAMS 06/20/88)

```
                                                                                                DAILY: 172
                                                                                                24-HR/PD  1
                         *** RUTLAND TEST - SLAMS                                     ***       SGROUP#   1

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)      *
                                     * ENDING WITH HOUR 24 FOR DAY 172 *
                                           * FROM ALL SOURCES *
                                         * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      3.75883 AND OCCURRED AT (      200.0,      67.5) *
DIRECTION /                                                       RANGE (METERS)
(DEGREES) /      200.0         500.0        1000.0        2000.0        5000.0       10000.0       20000.0       30000.0       40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   337.5 /      0.00021       0.37270       0.29909       0.09913       0.01812       0.00279       0.00024       0.00003       0.00000
   315.0 /      0.00000       0.00614       0.00514       0.00054       0.00000       0.00000       0.00000       0.00000       0.00000
   292.5 /      0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000
   270.0 /      0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000
   247.5 /      0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000
   225.0 /      0.00000       0.00002       0.00004       0.00001       0.00000       0.00000       0.00000       0.00000       0.00000
   202.5 /      0.00000       0.16498       0.66372       0.55935       0.17444       0.07666       0.03433       0.02130       0.01503
   180.0 /      0.00001       0.31417       0.46532       0.55897       0.13764       0.04688       0.01389       0.00576       0.00271
   157.5 /      0.00000       0.03430       0.05642       0.03106       0.00349       0.00014       0.00000       0.00000       0.00000
   135.0 /      0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000
   112.5 /      0.00276       0.00187       0.00029       0.00002       0.00000       0.00000       0.00000       0.00000       0.00000
    90.0 /      0.50816       0.32240       0.10163       0.02314       0.00109       0.00006       0.00000       0.00000       0.00000
    67.5 /      3.75883       2.09468       1.51004       0.93982       0.25647       0.09147       0.03567       0.02153       0.01530
    45.0 /      3.74000       1.42974       0.38715       0.09701       0.01539       0.00627       0.00290       0.00180       0.00125
    22.5 /      2.50925       0.92440       0.24867       0.07078       0.01569       0.00601       0.00273       0.00199       0.00167
   360.0 /      0.07454       0.02710       0.00445       0.00040       0.00000       0.00000       0.00000       0.00000       0.00000
```

```
                                                                                                DAILY: 172
                                                                                                24-HR/PD  1
                        *** RUTLAND TEST - SLAMS                                                SGROUP#   1
                                                                            ***

                        * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)       *
                                   * ENDING WITH HOUR 24 FOR DAY 172 *
                                          * FROM ALL SOURCES *
                                        * FOR THE RECEPTOR GRID *

                     * MAXIMUM VALUE EQUALS      3.75883 AND OCCURRED AT (     200.0,      67.5) *
  DIRECTION /
  (DEGREES) /       50000.0                               RANGE (METERS)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      337.5 /       0.00000
      315.0 /       0.00000
      292.5 /       0.00000
      270.0 /       0.00000
      247.5 /       0.00000
      225.0 /       0.00000
      202.5 /       0.01135
      180.0 /       0.00137
      157.5 /       0.00000
      135.0 /       0.00000
      112.5 /       0.00000
       90.0 /       0.00000
       67.5 /       0.01186
       45.0 /       0.00092
       22.5 /       0.00147
      360.0 /       0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 06/20/88 Data

```
                    ISCST               (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1     0     0     4     0     0    24     1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                       0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 06/20/88)

```
          *** RUTLAND TEST - SLAMS                                          ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                        ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)         ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                        ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                   ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                           ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                           ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                           ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                          ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                          ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                          ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                         ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                         ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                            ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                    ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                 ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                               ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)      ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3) ISW(20) = 3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)      ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3) ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)              ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)          ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)    ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)          ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)        ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                        ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)               ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                               ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)            ISW(31) =   0

NUMBER OF INPUT SOURCES                                         NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                        NGROUP =   0
```

```
                          (SLAMS 06/20/88)

TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)            IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                                 NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                                 NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                    NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                  NHOURS =   24
NUMBER OF DAYS OF METEOROLOGICAL DATA                            NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                        TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                ZR =   10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                        IMET =    5
ALLOCATED DATA STORAGE                                           LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                       MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 06/20/88)

```
                    *** RUTLAND TEST - SLAMS                                          ***

                     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                              (METERS/SEC)

                                1.54,   3.09,   5.14,   8.23,  10.80,

                                  *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                  (METERS)

 (   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
                     *** RUTLAND TEST - SLAMS                                   ***


                                   * ELEVATION HEIGHTS IN METERS *
                                 * FOR THE DISCRETE RECEPTOR POINTS *

  - X -     - Y -        ELE.           - X -     - Y -        ELE.            - X -     - Y -        ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0   29952.0    185.92836        2333.0   29357.0    161.54431         2666.0   30119.0    172.21234
   714.0   29583.0    166.11633
```

```
                                  (SLAMS 06/20/88)

          *** RUTLAND TEST - SLAMS                                        ***

                                  *** SOURCE DATA ***
                                                          TEMP.     EXIT VEL.
                   EMISSION RATE                          TYPE=0     TYPE=0
                     TYPE=0,1                             (DEG.K);  (M/SEC);               BLDG.    BLDG.    BLDG.
        T W        (GRAMS/SEC)                    BASE    VERT.DIM  HORZ.DIM  DIAMETER    HEIGHT   LENGTH    WIDTH
        Y A NUMBER   TYPE=2        X        Y     ELEV.    HEIGHT   TYPE=1    TYPE=1,2  TYPE=0    TYPE=0   TYPE=0   TYPE=0
 SOURCE P K  PART.  (GRAMS/SEC)                                                                                    
 NUMBER E E  CATS. *PER METER**2 (METERS) (METERS) (METERS) (METERS) (METERS)  (METERS)  (METERS)  (METERS) (METERS) (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1 0 0     0  0.10000E+01   1700.0  29700.0   169.0    50.30   327.60     15.24      1.04     10.97    73.20    48.80
```

APPENDIX G (cont.)
(SLAMS 06/20/88)

MET. DATA
DAY 172

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 172 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	183.0	1.00	560.0	288.0	0.0350	6	0.3000	0.000000E+00
2	189.0	1.00	560.0	288.0	0.0350	6	0.3000	0.000000E+00
3	203.0	1.00	560.0	288.0	0.0350	6	0.3000	0.000000E+00
4	167.0	1.00	560.0	289.0	0.0350	6	0.3000	0.000000E+00
5	61.0	1.00	733.0	292.0	0.0350	6	0.3000	0.000000E+00
6	331.0	2.60	969.0	296.0	0.0200	5	0.3000	0.000000E+00
7	22.0	3.60	1205.0	297.0	0.0000	4	0.2500	0.000000E+00
8	31.0	3.10	1440.0	299.0	0.0000	3	0.2000	0.000000E+00
9	41.0	3.10	1676.0	300.0	0.0000	2	0.1500	0.000000E+00
10	38.0	3.60	1912.0	301.0	0.0000	2	0.1500	0.000000E+00
11	52.0	2.10	2148.0	303.0	0.0000	1	0.1500	0.000000E+00
12	57.0	1.00	2383.0	303.0	0.0000	1	0.1500	0.000000E+00
13	62.0	4.10	2619.0	303.0	0.0000	2	0.1500	0.000000E+00
14	42.0	5.70	2855.0	305.0	0.0000	3	0.2000	0.000000E+00
15	62.0	2.10	2855.0	305.0	0.0000	3	0.2000	0.000000E+00
16	68.0	2.10	2855.0	305.0	0.0000	2	0.1500	0.000000E+00
17	68.0	3.60	2855.0	304.0	0.0000	3	0.2000	0.000000E+00
18	76.0	3.60	2855.0	303.0	0.0000	4	0.2500	0.000000E+00
19	73.0	3.60	2855.0	303.0	0.0000	4	0.2500	0.000000E+00
20	78.0	2.60	2601.0	302.0	0.0200	5	0.3000	0.000000E+00
21	64.0	2.60	2076.0	302.0	0.0200	5	0.3000	0.000000E+00
22	75.0	2.10	1551.0	298.0	0.0200	5	0.3000	0.000000E+00
23	56.0	1.50	1025.0	297.0	0.0350	6	0.3000	0.000000E+00
24	67.0	1.50	500.0	297.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                                DAILY:  172
                                                                                                24-HR/PD 1
                        *** RUTLAND TEST - SLAMS                                       ***      SGROUP#   1

                        * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                     * ENDING WITH HOUR 24 FOR DAY 172 *
                                           * FROM ALL SOURCES *
                                     * FOR THE DISCRETE RECEPTOR POINTS *

   - X -      - Y -        CON.          - X -      - Y -        CON.          - X -      - Y -        CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0      1.83391         2333.0    29357.0      0.00000         2666.0    30119.0      1.51657
   714.0    29583.0      0.00000
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 07/14/88 Data

```
                ISCST                  (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1     10     16      0      0      0    24       1
  0.20000E+03   0.50000E+03   0.10000E+04   0.20000E+04   0.50000E+04   0.10000E+05   0.20000E+05   0.30000E+05
  0.40000E+05   0.50000E+05
  0.00000E+00   0.22500E+02   0.45000E+02   0.67500E+02   0.90000E+02   0.11250E+03   0.13500E+03   0.15750E+03
  0.18000E+03   0.20250E+03   0.22500E+03   0.24750E+03   0.27000E+03   0.29250E+03   0.31500E+03   0.33750E+03
  0.59000E+03   0.64500E+03   0.75000E+03   0.75000E+03   0.73000E+03   0.54000E+03   0.15000E+04   0.28000E+04
  0.17000E+04   0.17000E+04
  0.60000E+03   0.62000E+03   0.56000E+03   0.58000E+03   0.72000E+03   0.10600E+04   0.28000E+04   0.15000E+04
  0.20000E+04   0.20000E+04
  0.56000E+03   0.58000E+03   0.54500E+03   0.58000E+03   0.78500E+03   0.23200E+04   0.14000E+04   0.20000E+04
  0.10000E+04   0.10000E+04
  0.55000E+03   0.54000E+03   0.56000E+03   0.64000E+03   0.81000E+03   0.15600E+04   0.21000E+04   0.20000E+04
  0.16000E+04   0.10000E+04
  0.53000E+03   0.52000E+03   0.54000E+03   0.63000E+03   0.90000E+03   0.22000E+04   0.12000E+04   0.15000E+04
  0.14000E+04   0.10000E+04
  0.52000E+03   0.52000E+03   0.54500E+03   0.54000E+03   0.94000E+03   0.19000E+04   0.20000E+04   0.18000E+04
  0.10000E+04   0.15000E+04
  0.52000E+03   0.52000E+03   0.52000E+03   0.54000E+03   0.70000E+03   0.20800E+04   0.21000E+04   0.23000E+04
  0.20000E+04   0.12000E+04
  0.52000E+03   0.56000E+03   0.53000E+03   0.52000E+03   0.56000E+03   0.69000E+03   0.16000E+04   0.24000E+04
  0.15000E+04   0.23000E+04
  0.52000E+03   0.58000E+03   0.55000E+03   0.73000E+03   0.83000E+03   0.12100E+04   0.13000E+04   0.12000E+04
  0.10000E+04   0.10000E+04
  0.52000E+03   0.56000E+03   0.60000E+03   0.83000E+03   0.87000E+03   0.16500E+04   0.17000E+04   0.10000E+04
  0.14000E+04   0.16000E+04
  0.54000E+03   0.53000E+03   0.55000E+03   0.77000E+03   0.70000E+03   0.11800E+04   0.15000E+04   0.50000E+03
  0.10000E+04   0.50000E+03
  0.52000E+03   0.52000E+03   0.52500E+03   0.55000E+03   0,62000E+03   0.15200E+04   0.50000E+03   0.80000E+03
  0.30000E+03   0.60000E+03
  0.53000E+03   0.55000E+03   0.55000E+03   0.49000E+03   0.50000E+03   0.58000E+03   0.50000E+03   0.50000E+03
  0.14000E+04   0.10000E+04
  0.55000E+03   0.58000E+03   0.62000E+03   0.48000E+03   0.61000E+03   0.11400E+04   0.50000E+03   0.70000E+03
  0.50000E+03   0.10000E+04
  0.58000E+03   0.62000E+03   0.70000E+03   0.67000E+03   0.48000E+03   0.92000E+03   0.14000E+04   0.60000E+03
  0.25000E+03   0.30000E+03
  0.59000E+03   0.66000E+03   0.78000E+03   0.96000E+03   0.11000E+04   0.43000E+03   0.50000E+03   0.50000E+03
  0.40000E+03   0.40000E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02                                    0 0
  1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
             *** RUTLAND TEST - SLAMS                                                      ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                   ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                    ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                           ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                   ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                              ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                           ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                      ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                      ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                      ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                     ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                     ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                     ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                    ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                    ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                       ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                               ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                            ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                          ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                 ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)         ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                 ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)          ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                         ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                     ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)               ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                     ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                   ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                   ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                          ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                          ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                       ISW(31) =   0

NUMBER OF INPUT SOURCES                                                    NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                   NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)         IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                              NXPNTS =  10
NUMBER OF Y (THETA) GRID VALUES                              NYPNTS =  16
NUMBER OF DISCRETE RECEPTORS                                 NXWYPT =   0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA               NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                         NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                     TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED             ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                     IMET =   5
ALLOCATED DATA STORAGE                                        LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                    MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
          *** RUTLAND TEST - SLAMS                                         ***

           *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                   (METERS/SEC)

                      1.54,   3.09,   5.14,   8.23,  10.80,

                         *** RANGES OF POLAR GRID SYSTEM ***
                                     (METERS)

  200.0,    500.0,   1000.0,   2000.0,   5000.0,  10000.0,  20000.0,  30000.0,  40000.0,  50000.0,

                       *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                     (DEGREES)

  360.0,     22.5,     45.0,     67.5,     90.0,    112.5,    135.0,    157.5,    180.0,    202.5,
  225.0,    247.5,    270.0,    292.5,    315.0,    337.5,
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
          *** RUTLAND TEST - SLAMS                                    ***


                                 * ELEVATION HEIGHTS IN METERS *
                                   * FOR THE RECEPTOR GRID *

 DIRECTION /                                         RANGE (METERS)
 (DEGREES) /      200.0       500.0      1000.0      2000.0      5000.0     10000.0     20000.0     30000.0     40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /  179.83235   201.16840   237.74446   292.60858   335.28067   131.06425   152.40030   152.40030   121.92024
     315.0 /  176.78435   188.97638   213.36041   204.21640   146.30429   280.41656   426.72083   182.88036    76.20015
     292.5 /  167.64034   176.78435   188.97638   146.30429   185.92836   347.47269   152.40030   213.36041   152.40030
     270.0 /  161.54431   167.64034   167.64034   149.35229   152.40030   176.78435   152.40030   152.40030   426.72083
     247.5 /  158.49631   158.49631   160.02031   167.64034   188.97638   463.29691   152.40030   243.84048    91.44018
     225.0 /  164.59233   161.54431   167.64034   234.69646   213.36041   359.66470   457.20090   152.40030   304.80060
     202.5 /  158.49631   170.68834   182.88036   252.98450   265.17651   502.92099   518.16101   304.80060   426.72083
     180.0 /  158.49631   176.78435   167.64034   222.50444   252.98450   368.80872   396.24078   365.76071   304.80060
     157.5 /  158.49631   170.68834   161.54431   158.49631   170.68834   210.31241   487.68097   731.52142   457.20090
     135.0 /  158.49631   158.49631   158.49631   164.59233   213.36041   633.98523   640.08124   701.04138   609.60120
     112.5 /  158.49631   158.49631   166.11633   164.59233   286.51257   579.12115   609.60120   548.64105   304.80060
      90.0 /  161.54431   158.49631   164.59233   192.02438   274.32053   670.56134   365.76071   457.20090   426.72083
      67.5 /  167.64034   164.59233   170.68834   195.07239   246.88849   475.48892   640.08124   609.60120   487.68097
      45.0 /  170.68834   176.78435   166.11633   176.78435   239.26848   707.13739   426.72083   609.60120   304.80060
      22.5 /  182.88036   188.97638   170.68834   176.78435   219.45644   323.08862   853.44165   457.20090   609.60120
     360.0 /  179.83235   196.59639   228.60045   228.60045   222.50444   164.59233   457.20090   853.44165   518.16101
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
                              *** RUTLAND TEST - SLAMS                                        ***


                                                     * ELEVATION HEIGHTS IN METERS *
                                                       * FOR THE RECEPTOR GRID *
 DIRECTION /                                                    RANGE (METERS)
 (DEGREES) /     50000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /    121.92024
    315.0 /     91.44018
    292.5 /    304.80060
    270.0 /    304.80060
    247.5 /    182.88036
    225.0 /    152.40030
    202.5 /    487.68097
    180.0 /    304.80060
    157.5 /    701.04138
    135.0 /    365.76071
    112.5 /    457.20090
     90.0 /    304.80060
     67.5 /    304.80060
     45.0 /    304.80060
     22.5 /    609.60120
    360.0 /    518.16101
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
                  *** RUTLAND TEST - SLAMS                                              ***

                                                     *** SOURCE DATA ***

                         EMISSION RATE                                                TEMP.      EXIT VEL.
                          TYPE=0,1                                                    TYPE=0      TYPE=0
             T W          (GRAMS/SEC)                                                (DEG.K);    (M/SEC);                BLDG.      BLDG.      BLDG.
             Y A NUMBER     TYPE=2                                  BASE              VERT.DIM   HORZ.DIM  DIAMETER     HEIGHT     LENGTH      WIDTH
   SOURCE    P K  PART.    (GRAMS/SEC)        X          Y          ELEV.     HEIGHT    TYPE=1   TYPE=1,2   TYPE=0      TYPE=0     TYPE=0     TYPE=0
   NUMBER    E E  CATS.  *PER METER**2    (METERS)   (METERS)    (METERS)   (METERS)  (METERS)   (METERS)  (METERS)    (METERS)   (METERS)   (METERS)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

         1   0 0      0   0.10000E+01         0.0         0.0     169.0      50.30    327.60      15.24      1.04       10.97      73.20      48.80
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

MET. DATA
DAY 196

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 196 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	217.0	1.00	416.0	289.0	0.0350	6	0.3000	0.000000E+00
2	208.0	1.00	416.0	289.0	0.0350	6	0.3000	0.000000E+00
3	208.0	1.00	416.0	288.0	0.0350	6	0.3000	0.000000E+00
4	176.0	1.00	416.0	287.0	0.0350	6	0.3000	0.000000E+00
5	217.0	1.00	410.0	288.0	0.0350	6	0.3000	0.000000E+00
6	210.0	1.00	399.0	290.0	0.0200	5	0.3000	0.000000E+00
7	210.0	1.00	387.0	295.0	0.0000	4	0.2500	0.000000E+00
8	43.0	2.60	376.0	299.0	0.0000	3	0.2000	0.000000E+00
9	39.0	3.10	364.0	300.0	0.0000	2	0.1500	0.000000E+00
10	60.0	4.10	353.0	302.0	0.0000	3	0.2000	0.000000E+00
11	53.0	3.60	341.0	301.0	0.0000	2	0.1500	0.000000E+00
12	65.0	3.60	330.0	301.0	0.0000	2	0.1500	0.000000E+00
13	53.0	3.60	318.0	301.0	0.0000	2	0.1500	0.000000E+00
14	66.0	3.60	307.0	301.0	0.0000	3	0.2000	0.000000E+00
15	69.0	2.60	307.0	299.0	0.0000	3	0.2000	0.000000E+00
16	89.0	2.60	307.0	297.0	0.0000	3	0.2000	0.000000E+00
17	47.0	1.50	307.0	295.0	0.0000	3	0.2000	0.000000E+00
18	212.0	1.50	307.0	294.0	0.0000	3	0.2000	0.000000E+00
19	209.0	1.00	307.0	294.0	0.0000	3	0.2000	0.000000E+00
20	168.0	1.00	326.0	294.0	0.0000	4	0.2500	0.000000E+00
21	180.0	1.00	391.0	293.0	0.0200	5	0.3000	0.000000E+00
22	177.0	1.00	445.0	292.0	0.0350	6	0.3000	0.000000E+00
23	178.0	1.50	499.0	292.0	0.0350	6	0.3000	0.000000E+00
24	202.0	1.50	553.0	292.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
                                                                                                    DAILY: 196
                                                                                                    24-HR/PD  1
                                                                                                    SGROUP#   1
                         *** RUTLAND TEST - SLAMS                                           ***

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                         * ENDING WITH HOUR 24 FOR DAY 196 *
                                                * FROM ALL SOURCES *
                                              * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      3.13876 AND OCCURRED AT (     200.0,      45.0) *

 DIRECTION /                                                RANGE (METERS)
 (DEGREES) /        200.0       500.0      1000.0      2000.0      5000.0     10000.0     20000.0     30000.0     40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /      0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
     315.0 /      0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
     292.5 /      0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
     270.0 /      0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
     247.5 /      0.00107     0.00197     0.00035     0.00003     0.00000     0.00000     0.00000     0.00000     0.00000
     225.0 /      0.35344     0.61729     0.49216     0.34127     0.04646     0.00541     0.00021     0.00002     0.00000
     202.5 /      0.40741     1.68146     1.94412     1.23693     0.30573     0.10294     0.03559     0.02015     0.01385
     180.0 /      0.01713     1.14992     1.43220     1.78013     0.51714     0.20061     0.07486     0.04134     0.02718
     157.5 /      0.01017     0.30480     0.14163     0.04363     0.00839     0.00127     0.00005     0.00000     0.00000
     135.0 /      0.00000     0.00005     0.00001     0.00000     0.00000     0.00000     0.00000     0.00000     0.00000
     112.5 /      0.04167     0.03407     0.00864     0.00195     0.00013     0.00000     0.00000     0.00000     0.00000
      90.0 /      0.67412     0.40095     0.12793     0.05482     0.02455     0.01516     0.00999     0.00791     0.00670
      67.5 /      2.79751     1.15913     0.36422     0.16165     0.07116     0.04028     0.02343     0.01731     0.01407
      45.0 /      3.13876     1.38468     0.42348     0.19480     0.09075     0.05310     0.03118     0.02240     0.01745
      22.5 /      0.92354     0.24694     0.05612     0.01853     0.00397     0.00093     0.00011     0.00001     0.00000
     360.0 /      0.02471     0.00623     0.00096     0.00016     0.00000     0.00000     0.00000     0.00000     0.00000
```

```
                                                                                              DAILY: 196
                                                                                              24-HR/PD  1
                         *** RUTLAND TEST - SLAMS                                             SGROUP#   1
                                                                        ***

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)        *
                                    * ENDING WITH HOUR 24 FOR DAY 196 *
                                         * FROM ALL SOURCES *
                                       * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      3.13876 AND OCCURRED AT (     200.0,      45.0) *
  DIRECTION /
  (DEGREES) /      50000.0                            RANGE (METERS)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
     337.5 /       0.00000
     315.0 /       0.00000
     292.5 /       0.00000
     270.0 /       0.00000
     247.5 /       0.00000
     225.0 /       0.00000
     202.5 /       0.01053
     180.0 /       0.01978
     157.5 /       0.00000
     135.0 /       0.00000
     112.5 /       0.00000
      90.0 /       0.00588
      67.5 /       0.01199
      45.0 /       0.01423
      22.5 /       0.00000
     360.0 /       0.00000
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 07/14/88 Data

```
                  ISCST                 (DATED 88348)

1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1     0     0     4     0     0    24      1
  0.17860E+04   0.29952E+05   0.61000E+03
  0.23330E+04   0.29357E+05   0.53000E+03
  0.26660E+04   0.30119E+05   0.56500E+03
  0.71400E+03   0.29583E+05   0.54500E+03
  0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00   0.00000E+00
  0.00000E+00   0.10000E+02
                                                                     0 0
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
                    *** RUTLAND TEST - SLAMS                                            ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                 ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                        ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                           ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                        ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                   ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                   ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                   ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                  ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                  ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                  ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                 ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                 ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                    ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                            ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                         ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                       ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)              ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)      ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)              ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)       ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                      ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                  ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)            ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                  ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                       ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                       ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                    ISW(31) =   0

NUMBER OF INPUT SOURCES                                                 NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                NGROUP =   0
```

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)            IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                 NXPNTS =   0
NUMBER OF Y (THETA) GRID VALUES                                 NYPNTS =   0
NUMBER OF DISCRETE RECEPTORS                                    NXWYPT =   4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                  NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                            NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                        TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                        IMET =   5
ALLOCATED DATA STORAGE                                           LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                       MIMIT =   311 WORDS
```

```
                  *** RUTLAND TEST - SLAMS                                               ***

                     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                               (METERS/SEC)

                                     1.54,    3.09,    5.14,    8.23,   10.80,

                                   *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                  (METERS)

 (    1786.0,   29952.0),  (    2333.0,   29357.0),  (    2666.0,   30119.0),  (     714.0,   29583.0),  (
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
                      *** RUTLAND TEST - SLAMS                                       ***


                                      * ELEVATION HEIGHTS IN METERS *
                                    * FOR THE DISCRETE RECEPTOR POINTS *
   - X -      - Y -       ELE.          - X -      - Y -       ELE.          - X -      - Y -       ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0    185.92836       2333.0    29357.0    161.54431       2666.0    30119.0    172.21234
   714.0    29583.0    166.11633
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

```
                             *** RUTLAND TEST - SLAMS                                                   ***

                                                            *** SOURCE DATA ***
                         EMISSION RATE
                             TYPE=0,1                                                   TEMP.      EXIT VEL.
         T W              (GRAMS/SEC)                                                   TYPE=0      TYPE=0
         Y A  NUMBER        TYPE=2                                                     (DEG.K);    (M/SEC);                BLDG.      BLDG.      BLDG.
 SOURCE  P K   PART.      (GRAMS/SEC)      X          Y          BASE                  VERT.DIM    HORZ.DIM   DIAMETER    HEIGHT     LENGTH      WIDTH
 NUMBER  E E   CATS.   *PER METER**2   (METERS)   (METERS)      ELEV.      HEIGHT      TYPE=1      TYPE=1,2    TYPE=0     TYPE=0     TYPE=0     TYPE=0
                                                              (METERS)   (METERS)    (METERS)    (METERS)    (METERS)   (METERS)   (METERS)   (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1  0 0     0     0.10000E+01    1700.0    29700.0      169.0      50.30      327.60       15.24        1.04      10.97      73.20      48.80
```

APPENDIX G (cont.)
(SLAMS 07/14/88)

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 196 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	217.0	1.00	416.0	289.0	0.0350	6	0.3000	0.000000E+00
2	208.0	1.00	416.0	289.0	0.0350	6	0.3000	0.000000E+00
3	208.0	1.00	416.0	288.0	0.0350	6	0.3000	0.000000E+00
4	176.0	1.00	416.0	287.0	0.0350	6	0.3000	0.000000E+00
5	217.0	1.00	410.0	288.0	0.0350	6	0.3000	0.000000E+00
6	210.0	1.00	399.0	290.0	0.0200	5	0.3000	0.000000E+00
7	210.0	1.00	387.0	295.0	0.0000	4	0.2500	0.000000E+00
8	43.0	2.60	376.0	299.0	0.0000	3	0.2000	0.000000E+00
9	39.0	3.10	364.0	300.0	0.0000	2	0.1500	0.000000E+00
10	60.0	4.10	353.0	302.0	0.0000	3	0.2000	0.000000E+00
11	53.0	3.60	341.0	301.0	0.0000	2	0.1500	0.000000E+00
12	65.0	3.60	330.0	301.0	0.0000	2	0.1500	0.000000E+00
13	53.0	3.60	318.0	301.0	0.0000	2	0.1500	0.000000E+00
14	66.0	3.60	307.0	301.0	0.0000	3	0.2000	0.000000E+00
15	69.0	2.60	307.0	299.0	0.0000	3	0.2000	0.000000E+00
16	89.0	2.60	307.0	297.0	0.0000	3	0.2000	0.000000E+00
17	47.0	1.50	307.0	295.0	0.0000	3	0.2000	0.000000E+00
18	212.0	1.50	307.0	294.0	0.0000	3	0.2000	0.000000E+00
19	209.0	1.00	307.0	294.0	0.0000	3	0.2000	0.000000E+00
20	168.0	1.00	326.0	294.0	0.0000	4	0.2500	0.000000E+00
21	180.0	1.00	391.0	293.0	0.0200	5	0.3000	0.000000E+00
22	177.0	1.00	445.0	292.0	0.0350	6	0.3000	0.000000E+00
23	178.0	1.50	499.0	292.0	0.0350	6	0.3000	0.000000E+00
24	202.0	1.50	553.0	292.0	0.0350	6	0.3000	0.000000E+00

```
                                                                                      DAILY: 196
                                                                                      24-HR/PD  1
                    *** RUTLAND TEST - SLAMS                                  ***     SGROUP#   1

                    * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                  * ENDING WITH HOUR 24 FOR DAY 196 *
                                        * FROM ALL SOURCES *
                                 * FOR THE DISCRETE RECEPTOR POINTS *

  - X -     - Y -       CON.         - X -     - Y -       CON.         - X -     - Y -       CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1786.0   29952.0    0.48841      2333.0   29357.0    0.00328      2666.0   30119.0    0.34197
    714.0   29583.0    0.00000
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 07/26/88 Data

```
                 ISCST                      (DATED 88348)
1 2 1 1 0 2 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1   10   16    0    0    0   24    1
  0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
  0.40000E+05  0.50000E+05
  0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
  0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
  0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
  0.17000E+04  0.17000E+04
  0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
  0.20000E+04  0.20000E+04
  0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
  0.10000E+04  0.10000E+04
  0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
  0.16000E+04  0.10000E+04
  0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
  0.14000E+04  0.10000E+04
  0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
  0.10000E+04  0.15000E+04
  0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
  0.20000E+04  0.12000E+04
  0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
  0.15000E+04  0.23000E+04
  0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
  0.10000E+04  0.10000E+04
  0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
  0.14000E+04  0.16000E+04
  0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
  0.10000E+04  0.50000E+03
  0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
  0.30000E+03  0.60000E+03
  0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
  0.14000E+04  0.10000E+04
  0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
  0.50000E+03  0.10000E+04
  0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
  0.25000E+03  0.30000E+03
  0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
  0.40000E+03  0.40000E+03
  0.00000E+00  0,00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02                                        0 0
1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
          *** RUTLAND TEST - SLAMS                                                   ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                                   ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)                    ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                           ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                                   ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                              ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                           ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                      ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                      ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                      ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                     ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                     ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                     ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                                    ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                                    ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                       ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                               ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                            ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                          ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)                 ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)         ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)                 ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)          ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                         ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                     ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)               ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                     ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)                   ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                                   ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                          ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                          ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                       ISW(31) =   0

NUMBER OF INPUT SOURCES                                                   NSOURC =    1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                                  NGROUP =    0
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)
NUMBER OF X (RANGE) GRID VALUES                              IPERD =    0
NUMBER OF Y (THETA) GRID VALUES                             NXPNTS =   10
NUMBER OF DISCRETE RECEPTORS                                NYPNTS =   16
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA              NXWYPT =    0
NUMBER OF DAYS OF METEOROLOGICAL DATA                       NHOURS =   24
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                 NDAYS =    1
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED            TK =.10000E+07
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                      ZR =  10.00  METERS
ALLOCATED DATA STORAGE                                        IMET =    5
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                   LIMIT = 43500 WORDS
                                                             MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
                   *** RUTLAND TEST - SLAMS                                        ***

                    *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                             (METERS/SEC)

                                1.54,    3.09,    5.14,   8.23,  10.80,

                                    *** RANGES OF POLAR GRID SYSTEM ***
                                                (METERS)

 200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,


                                  *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                                (DEGREES)

 360.0,      22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
 225.0,     247.5,     270.0,     292.5,     315.0,     337.5,
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
        *** RUTLAND TEST - SLAMS                                                    ***


                                   * ELEVATION HEIGHTS IN METERS *
                                    * FOR THE RECEPTOR GRID *
DIRECTION /
(DEGREES) /                                               RANGE (METERS)
                200.0      500.0     1000.0     2000.0     5000.0    10000.0    20000.0    30000.0    40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /  179.83235  201.16840  237.74446  292.60858  335.28067  131.06425  152.40030  152.40030  121.92024
    315.0 /  176.78435  188.97638  213.36041  204.21640  146.30429  280.41656  426.72083  182.88036   76.20015
    292.5 /  167.64034  176.78435  188.97638  146.30429  185.92836  347.47269  152.40030  213.36041  152.40030
    270.0 /  161.54431  167.64034  167.64034  149.35229  152.40030  176.78435  152.40030  152.40030  426.72083
    247.5 /  158.49631  158.49631  160.02031  167.64034  188.97638  463.29691  152.40030  243.84048   91.44018
    225.0 /  164.59233  161.54431  167.64034  234.69646  213.36041  359.66470  457.20090  152.40030  304.80060
    202.5 /  158.49631  170.68834  182.88036  252.98450  265.17651  502.92099  518.16101  304.80060  426.72083
    180.0 /  158.49631  176.78435  167.64034  222.50444  252.98450  368.80872  396.24078  365.76071  304.80060
    157.5 /  158.49631  170.68834  161.54431  158.49631  170.68834  210.31241  487.68097  731.52142  457.20090
    135.0 /  158.49631  158.49631  158.49631  164.59233  213.36041  633.98523  640.08124  701.04138  609.60120
    112.5 /  158.49631  158.49631  166.11633  164.59233  286.51257  579.12115  609.60120  548.64105  304.80060
     90.0 /  161.54431  158.49631  164.59233  192.02438  274.32053  670.56134  365.76071  457.20090  426.72083
     67.5 /  167.64034  164.59233  170.68834  195.07239  246.88849  475.48892  640.08124  609.60120  487.68097
     45.0 /  170.68834  176.78435  166.11633  176.78435  239.26848  707.13739  426.72083  609.60120  304.80060
     22.5 /  182.88036  188.97638  170.68834  176.78435  219.45644  323.08862  853.44165  457.20090  609.60120
    360.0 /  179.83235  196.59639  228.60045  228.60045  222.50444  164.59233  457.20090  853.44165  518.16101
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
                        *** RUTLAND TEST - SLAMS                                                ***


                                             * ELEVATION HEIGHTS IN METERS *
                                               * FOR THE RECEPTOR GRID *
 DIRECTION /
 (DEGREES) /      50000.0                                  RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

     337.5 /    121.92024
     315.0 /     91.44018
     292.5 /    304.80060
     270.0 /    304.80060
     247.5 /    182.88036
     225.0 /    152.40030
     202.5 /    487.68097
     180.0 /    304.80060
     157.5 /    701.04138
     135.0 /    365.76071
     112.5 /    457.20090
      90.0 /    304.80060
      67.5 /    304.80060
      45.0 /    304.80060
      22.5 /    609.60120
     360.0 /    518.16101
```

```
               *** RUTLAND TEST - SLAMS                                                       ***

                                             *** SOURCE DATA ***

                     EMISSION RATE                                              TEMP.     EXIT VEL.
                        TYPE=0,1                                               TYPE=0     TYPE=0
         T W         (GRAMS/SEC)                                              (DEG.K);   (M/SEC);
         Y A NUMBER     TYPE=2                               BASE             VERT.DIM   HORZ.DIM  DIAMETER   BLDG.     BLDG.     BLDG.
 SOURCE  P K  PART.  (GRAMS/SEC)     X           Y          ELEV.    HEIGHT    TYPE=1    TYPE=1,2   TYPE=0    HEIGHT    LENGTH    WIDTH
 NUMBER  E E  CATS.  *PER METER**2 (METERS)   (METERS)    (METERS)  (METERS)  (METERS)   (METERS)  (METERS)   TYPE=0    TYPE=0    TYPE=0
                                                                                                             (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1  0 0    0    0.10000E+01     0.0         0.0     169.0     50.30    327.60     15.24      1.04 .   10.97     73.20     48.80
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 208 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	218.0	1.00	173.0	290.0	0.0350	6	0.3000	0.000000E+00
2	81.0	1.00	173.0	289.0	0.0350	6	0.3000	0.000000E+00
3	217.0	1.00	173.0	289.0	0.0350	6	0.3000	0.000000E+00
4	27.0	1.00	173.0	289.0	0.0350	6	0.3000	0.000000E+00
5	105.0	1.00	173.0	289.0	0.0200	5	0.3000	0.000000E+00
6	42.0	1.00	202.0	290.0	0.0000	4	0.2500	0.000000E+00
7	78.0	1.00	287.0	291.0	0.0000	3	0.2000	0.000000E+00
8	10.0	1.00	373.0	294.0	0.0000	3	0.2000	0.000000E+00
9	27.0	1.00	459.0	296.0	0.0000	2	0.1500	0.000000E+00
10	27.0	1.50	544.0	298.0	0.0000	2	0.1500	0.000000E+00
11	44.0	1.00	630.0	300.0	0.0000	1	0.1500	0.000000E+00
12	17.0	2.60	716.0	301.0	0.0000	2	0.1500	0.000000E+00
13	45.0	3.10	802.0	301.0	0.0000	2	0.1500	0.000000E+00
14	83.0	3.60	887.0	296.0	0.0000	3	0.2000	0.000000E+00
15	50.0	2.60	973.0	295.0	0.0000	3	0.2000	0.000000E+00
16	31.0	2.10	973.0	296.0	0.0000	3	0.2000	0.000000E+00
17	34.0	2.10	973.0	297.0	0.0000	3	0.2000	0.000000E+00
18	32.0	1.00	973.0	296.0	0.0000	3	0.2000	0.000000E+00
19	51.0	1.00	973.0	295.0	0.0000	3	0.2000	0.000000E+00
20	51.0	1.00	1004.0	294.0	0.0000	4	0.2500	0.000000E+00
21	189.0	1.00	1025.0	293.0	0.0200	5	0.3000	0.000000E+00
22	52.0	1.50	1055.0	293.0	0.0350	6	0.3000	0.000000E+00
23	20.0	1.50	1085.0	293.0	0.0350	6	0.3000	0.000000E+00
24	40.0	1.50	1115.0	293.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
                                                                                                     DAILY: 208
                                                                                                     24-HR/PD 1
                                                                                                     SGROUP#  1
                          *** RUTLAND TEST - SLAMS                                            ***

                          * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                      * ENDING WITH HOUR 24 FOR DAY 208 *
                                            * FROM ALL SOURCES *
                                          * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      5.84417 AND OCCURRED AT (     200.0,      22.5) *

 DIRECTION /                                                  RANGE (METERS)
 (DEGREES) /      200.0        500.0       1000.0       2000.0       5000.0      10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
    337.5 /     0.02879      0.01347      0.00200      0.00016      0.00000      0.00000      0.00000      0.00000      0.00000
    315.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    292.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    270.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    247.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    225.0 /     0.00002      0.06101      0.30761      0.31847      0.04407      0.00517      0.00017      0.00001      0.00000
    202.5 /     0.00000      0.01566      0.04470      0.01590      0.00032      0.00000      0.00000      0.00000      0.00000
    180.0 /     0.00000      0.05262      0.08167      0.08661      0.00833      0.00049      0.00000      0.00000      0.00000
    157.5 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    135.0 /     0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000      0.00000
    112.5 /     0.00913      0.02393      0.13294      0.09895      0.02804      0.00370      0.00015      0.00001      0.00000
     90.0 /     0.42397      0.49842      0.27966      0.14740      0.02909      0.00663      0.00112      0.00034      0.00014
     67.5 /     1.19735      1.11235      0.39688      0.12292      0.02682      0.00697      0.00093      0.00016      0.00003
     45.0 /     4.19607      4.26006      1.77081      0.79963      0.25863      0.11206      0.05210      0.03352      0.02413
     22.5 /     5.84417      3.60335      1.34520      0.71418      0.25576      0.09804      0.03721      0.02133      0.01425
    360.0 /     1.43464      0.87157      0.23855      0.07526      0.02337      0.00743      0.00135      0.00030      0.00007
```

```
                                                                                                    DAILY: 208

                                                                                                    24-HR/PD  1

                                                                                                    SGROUP#   1
                         *** RUTLAND TEST - SLAMS                                         ***

                         * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)     *
                                     * ENDING WITH HOUR 24 FOR DAY 208 *
                                          * FROM ALL SOURCES *
                                        * FOR THE RECEPTOR GRID *

                      * MAXIMUM VALUE EQUALS      5.84417 AND OCCURRED AT (     200.0,      22.5) *
  DIRECTION /
  (DEGREES) /     50000.0                              RANGE (METERS)
-----------------------------------------------------------------------------------------------------------

     337.5 /     0.00000
     315.0 /     0.00000
     292.5 /     0.00000
     270.0 /     0.00000
     247.5 /     0.00000
     225.0 /     0.00000
     202.5 /     0.00000
     180.0 /     0.00000
     157.5 /     0.00000
     135.0 /     0.00000
     112.5 /     0.00000
      90.0 /     0.00006
      67.5 /     0.00001
      45.0 /     0.01842
      22.5 /     0.01022
     360.0 /     0.00002
```

APPENDIX G
ISCST Modeling Results for Discrete Receptors Using SLAMS 07/26/88 Data

```
                       ISCST                   (DATED 88348)
1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
    1     0     0     4     0     0    24      1
  0.17860E+04  0.29952E+05  0.61000E+03
  0.23330E+04  0.29357E+05  0.53000E+03
  0.26660E+04  0.30119E+05  0.56500E+03
  0.71400E+03  0.29583E+05  0.54500E+03
  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
  0.00000E+00  0.10000E+02
  1 0 0 0 0  1.000E+0  1.700E+3  2.970E+4  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
                                                                    0 0
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
          *** RUTLAND TEST - SLAMS
                                                                                ***
 CALCULATE (CONCENTRATION=1,DEPOSITION=2)                          ISW(1) =   1
 RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)           ISW(2) =   2
 DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                  ISW(3) =   1
 TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                          ISW(4) =   1
 CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                     ISW(5) =   0
 LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                  ISW(6) =   2

 COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
 WITH THE FOLLOWING TIME PERIODS:
   HOURLY (YES=1,NO=0)                                             ISW(7) =   0
   2-HOUR (YES=1,NO=0)                                             ISW(8) =   0
   3-HOUR (YES=1,NO=0)                                             ISW(9) =   0
   4-HOUR (YES=1,NO=0)                                            ISW(10) =   0
   6-HOUR (YES=1,NO=0)                                            ISW(11) =   0
   8-HOUR (YES=1,NO=0)                                            ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                            ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                            ISW(14) =   1
 PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                              ISW(15) =   0

 PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
 SPECIFIED BY ISW(7) THROUGH ISW(14):
   DAILY TABLES (YES=1,NO=0)                                      ISW(16) =   1
   HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                   ISW(17) =   0
   MAXIMUM 50 TABLES (YES=1,NO=0)                                 ISW(18) =   0
 METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)        ISW(19) =   2
 RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3) ISW(20) =  3
 WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)        ISW(21) =   1
 VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3) ISW(22) =   1
 SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                ISW(23) =   0
 PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)            ISW(24) =   1
 PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)      ISW(25) =   2
 PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)            ISW(26) =   1
 CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)          ISW(27) =   2
 REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                          ISW(28) =   2
 TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                 ISW(29) =   2
 DEBUG OPTION CHOSEN (YES=1,NO=2)                                 ISW(30) =   1
 ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)              ISW(31) =   0

 NUMBER OF INPUT SOURCES                                          NSOURC =   1
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                          NGROUP =   0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)              IPERD =   0
NUMBER OF X (RANGE) GRID VALUES                                   NXPNTS =   0
NUMBER OF Y (THETA) GRID VALUES                                   NYPNTS =   0
NUMBER OF DISCRETE RECEPTORS                                      NXWYPT =   4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                     NHOURS =  24
NUMBER OF DAYS OF METEOROLOGICAL DATA                              NDAYS =   1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                          TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                  ZR =  10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                          IMET =   5
ALLOCATED DATA STORAGE                                             LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                         MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
            *** RUTLAND TEST - SLAMS                                    ***

             *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                        (METERS/SEC)

                              1.54,    3.09,    5.14,    8.23,  10.80,

                                    *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                  (METERS)

(   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
                 *** RUTLAND TEST - SLAMS                                                        ***


                                         * ELEVATION HEIGHTS IN METERS *
                                      * FOR THE DISCRETE RECEPTOR POINTS *
   - X -      - Y -         ELE.                 - X -      - Y -         ELE.                 - X -      - Y -         ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1786.0    29952.0     185.92836               2333.0    29357.0     161.54431               2666.0    30119.0     172.21234
    714.0    29583.0     166.11633
```

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
                   *** RUTLAND TEST - SLAMS                                      ***

                                             *** SOURCE DATA ***

                         EMISSION RATE                                           TEMP.      EXIT VEL.
                           TYPE=0,1                                              TYPE=0      TYPE=0
           T W           (GRAMS/SEC)                                           (DEG.K);   (M/SEC);                BLDG.      BLDG.      BLDG.
           Y A NUMBER      TYPE=2                           BASE                VERT.DIM  HORZ.DIM DIAMETER    HEIGHT     LENGTH     WIDTH
  SOURCE   P K  PART.    (GRAMS/SEC)      X          Y      ELEV.     HEIGHT     TYPE=1   TYPE=1,2  TYPE=0     TYPE=0     TYPE=0     TYPE=0
  NUMBER   E E  CATS.  *PER METER**2  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

       1   0 0    0    0.10000E+01     1700.0    29700.0     169.0      50.30    327.60      15.24      1.04      10.97      73.20      48.80
```

*** RUTLAND TEST - SLAMS MET. DATA
*** DAY 208

* METEOROLOGICAL DATA FOR DAY 208 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	218.0	1.00	173.0	290.0	0.0350	6	0.3000	0.000000E+00
2	81.0	1.00	173.0	289.0	0.0350	6	0.3000	0.000000E+00
3	217.0	1.00	173.0	289.0	0.0350	6	0.3000	0.000000E+00
4	27.0	1.00	173.0	289.0	0.0350	6	0.3000	0.000000E+00
5	105.0	1.00	173.0	289.0	0.0200	5	0.3000	0.000000E+00
6	42.0	1.00	202.0	290.0	0.0000	4	0.2500	0.000000E+00
7	78.0	1.00	287.0	291.0	0.0000	3	0.2000	0.000000E+00
8	10.0	1.00	373.0	294.0	0.0000	3	0.2000	0.000000E+00
9	27.0	1.00	459.0	296.0	0.0000	2	0.1500	0.000000E+00
10	27.0	1.50	544.0	298.0	0.0000	2	0.1500	0.000000E+00
11	44.0	1.00	630.0	300.0	0.0000	1	0.1500	0.000000E+00
12	17.0	2.60	716.0	301.0	0.0000	2	0.1500	0.000000E+00
13	45.0	3.10	802.0	301.0	0.0000	2	0.1500	0.000000E+00
14	83.0	3.60	887.0	296.0	0.0000	3	0.2000	0.000000E+00
15	50.0	2.60	973.0	295.0	0.0000	3	0.2000	0.000000E+00
16	31.0	2.10	973.0	296.0	0.0000	3	0.2000	0.000000E+00
17	34.0	2.10	973.0	297.0	0.0000	3	0.2000	0.000000E+00
18	32.0	1.00	973.0	296.0	0.0000	3	0.2000	0.000000E+00
19	51.0	1.00	973.0	295.0	0.0000	3	0.2000	0.000000E+00
20	51.0	1.00	1004.0	294.0	0.0000	4	0.2500	0.000000E+00
21	189.0	1.00	1025.0	293.0	0.0200	5	0.3000	0.000000E+00
22	52.0	1.50	1055.0	293.0	0.0350	6	0.3000	0.000000E+00
23	20.0	1.50	1085.0	293.0	0.0350	6	0.3000	0.000000E+00
24	40.0	1.50	1115.0	293.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(SLAMS 07/26/88)

```
                                                                                                 DAIL.: 208

                                                                                                 24-HR/PD  1

                                                                                                 SGROUP#   1
                         *** RUTLAND TEST - SLAMS                                    ***

                         * DAILY 24-HOUR AVERAGE CONCENTRATION .(MICROGRAMS/CUBIC METER)     *
                                     * ENDING WITH HOUR 24 FOR DAY 208 *
                                          * FROM ALL SOURCES *
                                    * FOR THE DISCRETE RECEPTOR POINTS *
  - X -      - Y -        CON.           - X -      - Y -        CON.          - X -      - Y -        CON.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
  1786.0   29952.0      5.22525          2333.0    29357.0      0.00805         2666.0    30119.0      0.37073
   714.0   29583.0      0.00000
```

APPENDIX G
ISCST Modeling Results for Polar Receptors Using SLAMS 08/07/88 Data

```
               ISCST                        (DATED 88348)
1 2 1 1 0 2 0 0 0 0 0 0 0 1 0 1 0 0 2 3 1 1 0 1 2 1 1 2 2 1 0 0 0 0 0 0 0 0 0 0
   1     10       16       0       0       0     24       1
 0.20000E+03  0.50000E+03  0.10000E+04  0.20000E+04  0.50000E+04  0.10000E+05  0.20000E+05  0.30000E+05
 0.40000E+05  0.50000E+05
 0.00000E+00  0.22500E+02  0.45000E+02  0.67500E+02  0.90000E+02  0.11250E+03  0.13500E+03  0.15750E+03
 0.18000E+03  0.20250E+03  0.22500E+03  0.24750E+03  0.27000E+03  0.29250E+03  0.31500E+03  0.33750E+03
 0.59000E+03  0.64500E+03  0.75000E+03  0.75000E+03  0.73000E+03  0.54000E+03  0.15000E+04  0.28000E+04
 0.17000E+04  0.17000E+04
 0.60000E+03  0.62000E+03  0.56000E+03  0.58000E+03  0.72000E+03  0.10600E+04  0.28000E+04  0.15000E+04
 0.20000E+04  0.20000E+04
 0.56000E+03  0.58000E+03  0.54500E+03  0.58000E+03  0.78500E+03  0.23200E+04  0.14000E+04  0.20000E+04
 0.10000E+04  0.10000E+04
 0.55000E+03  0.54000E+03  0.56000E+03  0.64000E+03  0.81000E+03  0.15600E+04  0.21000E+04  0.20000E+04
 0.16000E+04  0.10000E+04
 0.53000E+03  0.52000E+03  0.54000E+03  0.63000E+03  0.90000E+03  0.22000E+04  0.12000E+04  0.15000E+04
 0.14000E+04  0.10000E+04
 0.52000E+03  0.52000E+03  0.54500E+03  0.54000E+03  0.94000E+03  0.19000E+04  0.20000E+04  0.18000E+04
 0.10000E+04  0.15000E+04
 0.52000E+03  0.52000E+03  0.52000E+03  0.54000E+03  0.70000E+03  0.20800E+04  0.21000E+04  0.23000E+04
 0.20000E+04  0.12000E+04
 0.52000E+03  0.56000E+03  0.53000E+03  0.52000E+03  0.56000E+03  0.69000E+03  0.16000E+04  0.24000E+04
 0.15000E+04  0.23000E+04
 0.52000E+03  0.58000E+03  0.55000E+03  0.73000E+03  0.83000E+03  0.12100E+04  0.13000E+04  0.12000E+04
 0.10000E+04  0.10000E+04
 0.52000E+03  0.56000E+03  0.60000E+03  0.83000E+03  0.87000E+03  0.16500E+04  0.17000E+04  0.10000E+04
 0.14000E+04  0.16000E+04
 0.54000E+03  0.53000E+03  0.55000E+03  0.77000E+03  0.70000E+03  0.11800E+04  0.15000E+04  0.50000E+03
 0.10000E+04  0.50000E+03
 0.52000E+03  0.52000E+03  0.52500E+03  0.55000E+03  0.62000E+03  0.15200E+04  0.50000E+03  0.80000E+03
 0.30000E+03  0.60000E+03
 0.53000E+03  0.55000E+03  0.55000E+03  0.49000E+03  0.50000E+03  0.58000E+03  0.50000E+03  0.50000E+03
 0.14000E+04  0.10000E+04
 0.55000E+03  0.58000E+03  0.62000E+03  0.48000E+03  0.61000E+03  0.11400E+04  0.50000E+03  0.70000E+03
 0.50000E+03  0.10000E+04
 0.58000E+03  0.62000E+03  0.70000E+03  0.67000E+03  0.48000E+03  0.92000E+03  0.14000E+04  0.60000E+03
 0.25000E+03  0.30000E+03
 0.59000E+03  0.66000E+03  0.78000E+03  0.96000E+03  0.11000E+04  0.43000E+03  0.50000E+03  0.50000E+03
 0.40000E+03  0.40000E+03
 0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00  0.00000E+00
 0.00000E+00  0.10000E+02
                                                                 0 0
1 0 0 0 0  1.000E+0  0.000E-1  0.000E-1  1.690E+2  5.030E+1  3.276E+2  1.524E+1  1.040E+0  1.097E+1  7.320E+1  4.880E+1
```

```
          *** RUTLAND TEST - SLAMS                                              ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)                              ISW(1) =   1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)               ISW(2) =   2
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)                      ISW(3) =   1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                              ISW(4) =   1
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)                         ISW(5) =   0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)                      ISW(6) =   2

COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
WITH THE FOLLOWING TIME PERIODS:
  HOURLY (YES=1,NO=0)                                                 ISW(7) =   0
  2-HOUR (YES=1,NO=0)                                                 ISW(8) =   0
  3-HOUR (YES=1,NO=0)                                                 ISW(9) =   0
  4-HOUR (YES=1,NO=0)                                                ISW(10) =   0
  6-HOUR (YES=1,NO=0)                                                ISW(11) =   0
  8-HOUR (YES=1,NO=0)                                                ISW(12) =   0
  12-HOUR (YES=1,NO=0)                                               ISW(13) =   0
  24-HOUR (YES=1,NO=0)                                               ISW(14) =   1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                                  ISW(15) =   0

PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
SPECIFIED BY ISW(7) THROUGH ISW(14):
  DAILY TABLES (YES=1,NO=0)                                          ISW(16) =   1
  HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)                       ISW(17) =   0
  MAXIMUM 50 TABLES (YES=1,NO=0)                                     ISW(18) =   0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)            ISW(19) =   2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)    ISW(20) =   3
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)            ISW(21) =   1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)     ISW(22) =   1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)                    ISW(23) =   0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)                ISW(24) =   1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)          ISW(25) =   2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)                ISW(26) =   1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)              ISW(27) =   2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)                              ISW(28) =   2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)                     ISW(29) =   2
DEBUG OPTION CHOSEN (YES=1,NO=2)                                     ISW(30) =   1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)                  ISW(31) =   0

NUMBER OF INPUT SOURCES                                              NSOURC =   1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)                             NGROUP =   0
```

APPENDIX G (cont.)
(SLAMS 08/07/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)
NUMBER OF X (RANGE) GRID VALUES                              IPERD =    0
NUMBER OF Y (THETA) GRID VALUES                             NXPNTS =   10
NUMBER OF DISCRETE RECEPTORS                                NYPNTS =   16
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA              NXWYPT =    0
NUMBER OF DAYS OF METEOROLOGICAL DATA                       NHOURS =   24
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                 NDAYS =    1
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED            TK =.10000E+07
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                      ZR =  10.00  METERS
ALLOCATED DATA STORAGE                                        IMET =    5
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                   LIMIT = 43500 WORDS
                                                             MIMIT =   953 WORDS
```

APPENDIX G (cont.)
(SLAMS 08/07/88)

```
     *** RUTLAND TEST - SLAMS                                         ***

          *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                     (METERS/SEC)

                      1.54,    3.09,    5.14,   8.23,  10.80,

                          *** RANGES OF POLAR GRID SYSTEM ***
                                       (METERS)

 200.0,     500.0,    1000.0,    2000.0,    5000.0,   10000.0,   20000.0,   30000.0,   40000.0,   50000.0,

                        *** RADIAL ANGLES OF POLAR GRID SYSTEM ***

                                       (DEGREES)

 360.0,      22.5,      45.0,      67.5,      90.0,     112.5,     135.0,     157.5,     180.0,     202.5,
 225.0,     247.5,     270.0,     292.5,     315.0,     337.5,
                                   APPENDIX G (cont.)
                                   (SLAMS 08/07/88)

                 *** RUTLAND TEST - SLAMS                                          ***


                                         * ELEVATION HEIGHTS IN METERS *
                                           * FOR THE RECEPTOR GRID *
 DIRECTION /                                               RANGE (METERS)
 (DEGREES) /      200.0        500.0        1000.0       2000.0       5000.0       10000.0      20000.0      30000.0      40000.0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   337.5 /     179.83235    201.16840    237.74446    292.60858    335.28067    131.06425    152.40030    152.40030    121.92024
   315.0 /     176.78435    188.97638    213.36041    204.21640    146.30429    280.41656    426.72083    182.88036     76.20015
   292.5 /     167.64034    176.78435    188.97638    146.30429    185.92836    347.47269    152.40030    213.36041    152.40030
   270.0 /     161.54431    167.64034    167.64034    149.35229    152.40030    176.78435    152.40030    152.40030    426.72083
   247.5 /     158.49631    158.49631    160.02031    167.64034    188.97638    463.29691    152.40030    243.84048     91.44018
   225.0 /     164.59233    161.54431    167.64034    234.69646    213.36041    359.66470    457.20090    152.40030    304.80060
   202.5 /     158.49631    170.68834    182.88036    252.98450    265.17651    502.92099    518.16101    304.80060    426.72083
   180.0 /     158.49631    176.78435    167.64034    222.50444    252.98450    368.80872    396.24078    365.76071    304.80060
   157.5 /     158.49631    170.68834    161.54431    158.49631    170.68834    210.31241    487.68097    731.52142    457.20090
   135.0 /     158.49631    158.49631    158.49631    164.59233    213.36041    633.98523    640.08124    701.04138    609.60120
   112.5 /     158.49631    158.49631    166.11633    164.59233    286.51257    579.12115    609.60120    548.64105    304.80060
    90.0 /     161.54431    158.49631    164.59233    192.02438    274.32053    670.56134    365.76071    457.20090    426.72083
    67.5 /     167.64034    164.59233    170.68834    195.07239    246.88849    475.48892    640.08124    609.60120    487.68097
    45.0 /     170.68834    176.78435    166.11633    176.78435    239.26848    707.13739    426.72083    609.60120    304.80060
    22.5 /     182.88036    188.97638    170.68834    176.78435    219.45644    323.08862    853.44165    457.20090    609.60120
   360.0 /     179.83235    196.59639    228.60045    228.60045    222.50444    164.59233    457.20090    853.44165    518.16101
```

```
*** RUTLAND TEST - SLAMS                                                    ***


                                   * ELEVATION HEIGHTS IN METERS *
                                     * FOR THE RECEPTOR GRID *
DIRECTION /
(DEGREES) /     50000.0                         RANGE (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

    337.5 /    121.92024
    315.0 /     91.44018
    292.5 /    304.80060
    270.0 /    304.80060
    247.5 /    182.88036
    225.0 /    152.40030
    202.5 /    487.68097
    180.0 /    304.80060
    157.5 /    701.04138
    135.0 /    365.76071
    112.5 /    457.20090
     90.0 /    304.80060
     67.5 /    304.80060
     45.0 /    304.80060
     22.5 /    609.60120
    360.0 /    518.16101
```

APPENDIX G (cont.)
(Watkins Avenue 08/19/88)

```
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)                IPERD =    0
NUMBER OF X (RANGE) GRID VALUES                                     NXPNTS =    0
NUMBER OF Y (THETA) GRID VALUES                                     NYPNTS =    0
NUMBER OF DISCRETE RECEPTORS                                        NXWYPT =    4
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA                      NHOURS =   24
NUMBER OF DAYS OF METEOROLOGICAL DATA                                NDAYS =    1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR                            TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED                    ZR =   10.00  METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA                            IMET =    5
ALLOCATED DATA STORAGE                                               LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN                           MIMIT =   311 WORDS
```

APPENDIX G (cont.)
(Watkins Avenue 08/19/88)

```
                  *** RUTLAND TEST - SLAMS                                                ***

                     *** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
                                                (METERS/SEC)

                                   1.54,   3.09,   5.14,   8.23,  10.80,

                                    *** X,Y COORDINATES OF DISCRETE RECEPTORS ***
                                                  (METERS)

(   1786.0,  29952.0),  (   2333.0,  29357.0),  (   2666.0,  30119.0),  (    714.0,  29583.0),  (
                    *** RUTLAND TEST - SLAMS                                        ***


                                    * ELEVATION HEIGHTS IN METERS *
                                  * FOR THE DISCRETE RECEPTOR POINTS *
 - X -      - Y -         ELE.              - X -      - Y -         ELE.              - X -      - Y -         ELE.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

  1786.0    29952.0    185.92836            2333.0    29357.0    161.54431            2666.0    30119.0    172.21234
   714.0    29583.0    166.11633
```

APPENDIX G (cont.)
(Watkins Avenue 08/19/88)

```
                          *** RUTLAND TEST - SLAMS                                            ***

                                                 *** SOURCE DATA ***

                     EMISSION RATE                                              TEMP.     EXIT VEL.
                       TYPE=0,1                                                 TYPE=0     TYPE=0
         T W        (GRAMS/SEC)                                                (DEG.K);   (M/SEC);            BLDG.     BLDG.     BLDG.
         Y A NUMBER    TYPE=2                               BASE               VERT.DIM  HORZ.DIM DIAMETER   HEIGHT    LENGTH     WIDTH
 SOURCE  P K  PART.  (GRAMS/SEC)     X         Y            ELEV.     HEIGHT    TYPE=1   TYPE=1,2  TYPE=0    TYPE=0    TYPE=0    TYPE=0
 NUMBER  E E  CATS. *PER METER**2 (METERS)  (METERS)     (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)  (METERS)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

      1  0 0    0   0.10000E+01   1700.0   29700.0       169.0     50.30    327.60     15.24      1.04     10.97     73.20     48.80
```

APPENDIX G (cont.)
(Watkins Avenue 08/19/88)

*** RUTLAND TEST - SLAMS ***

* METEOROLOGICAL DATA FOR DAY 232 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	266.0	1.00	128.0	282.0	0.0350	6	0.3000	0.000000E+00
2	283.0	1.00	128.0	281.0	0.0350	6	0.3000	0.000000E+00
3	277.0	1.00	128.0	280.0	0.0350	6	0.3000	0.000000E+00
4	274.0	1.00	128.0	280.0	0.0350	6	0.3000	0.000000E+00
5	292.0	1.00	128.0	280.0	0.0350	6	0.3000	0.000000E+00
6	260.0	1.50	289.0	282.0	0.0350	6	0.3000	0.000000E+00
7	305.0	1.50	467.0	285.0	0.0200	5	0.3000	0.000000E+00
8	317.0	1.00	645.0	288.0	0.0000	4	0.2500	0.000000E+00
9	343.0	1.00	823.0	291.0	0.0000	3	0.2000	0.000000E+00
10	13.0	1.50	1002.0	292.0	0.0000	2	0.1500	0.000000E+00
11	110.0	1.00	1180.0	293.0	0.0000	2	0.1500	0.000000E+00
12	110.0	1.50	1358.0	294.0	0.0000	2	0.1500	0.000000E+00
13	92.0	1.00	1536.0	295.0	0.0000	3	0.2000	0.000000E+00
14	115.0	1.00	1714.0	295.0	0.0000	2	0.1500	0.000000E+00
15	43.0	1.00	1714.0	296.0	0.0000	2	0.1500	0.000000E+00
16	32.0	1.00	1714.0	296.0	0.0000	2	0.1500	0.000000E+00
17	342.0	1.00	1714.0	295.0	0.0000	2	0.1500	0.000000E+00
18	355.0	1.00	1714.0	291.0	0.0000	3	0.2000	0.000000E+00
19	41.0	1.00	1714.0	288.0	0.0000	4	0.2500	0.000000E+00
20	51.0	1.00	1347.0	287.0	0.0200	5	0.3000	0.000000E+00
21	264.0	1.00	1051.0	286.0	0.0350	6	0.3000	0.000000E+00
22	260.0	1.00	756.0	285.0	0.0350	6	0.3000	0.000000E+00
23	263.0	1.00	460.0	284.0	0.0350	6	0.3000	0.000000E+00
24	279.0	1.00	165.0	284.0	0.0350	6	0.3000	0.000000E+00

APPENDIX G (cont.)
(Watkins Avenue 08/19/88)

```
                                                                                     DAILY: 232
                                                                                     24-HR/PD  1
                  *** RUTLAND TEST - SLAMS                                           SGROUP#   1
                                                                 ***

                  * DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER)    *
                                   * ENDING WITH HOUR 24 FOR DAY 232 *
                                       * FROM ALL SOURCES *
                                  * FOR THE DISCRETE RECEPTOR POINTS *

   - X -     - Y -        CON.         - X -     - Y -        CON.         - X -     - Y -        CON.
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

   1786.0   29952.0     2.01551       2333.0   29357.0     0.51868        2666.0   30119.0     0.05560
    714.0   29583.0     1.68811
```

APPENDIX F

APPENDIX H

PCB Concentrations in Forage Samples in Rutland, Vermont (pg/g)

	Monitoring Site				
	Rte. 3	Creek Rd.	Rte. 3	Creek Rd.	Method Blank
Sample Date --	10/07/87	10/09/87	11/04/87	11/04/87	1987
PCBs:					
Mono	ND(17.7)	73.5	ND(9.04)	16	ND(0.59)
Di	545	167	102	272	9.17
Tri	1720	595	372	722	17.7
Tetra	2060	838	713	1050	12.8
Penta	1810	1230	1380	1460	12
Hexa	732	473	596	676	3.46
Hepta	157	64.4	157	144	0.164
Octa	ND(15)	ND(11.5)	7.28	ND(33.7)	ND(0.123)
Nona	ND(22.9)	ND(17.7)	ND(9.25)	ND(4.87)	ND(0.224)
Deca	ND(48.7)	ND(37.5)	ND(29.4)	ND(4.87)	ND(0.475)

APPENDIX H

PCB Concentrations in Crop Samples
in Rutland, Vermont
(pg/g)

		Monitoring Site						
	Method Blank Crops	Potato						Carrot
		Quarterline	Quarterline	Quarterline	Quarterline	Quarterline	Quarterline	Rte. 133
Sample Date --	1987	10/09/87	10/09/87	11/04/87	11/04/87	11/04/87	11/04/87	10/09/87
PCBs:								
Mono	46.1	119	146	54.3	53.2	69.9	106	65.7
Di	964	2860	2970	1830	1820	1690	1710	898
Tri	2100	4490	4590	3690	3020	1720	2290	2660
Tetra	1450	2530	2300	2920	3450	1270	1360	1420
Penta	938	2090	1930	2070	2130	1020	1240	690
Hexa	209	590	616	550	476	174	332	603
Hepta	9.4	53.8	46.9	41.1	24.3	6.32	9.99	114
Octa	ND(1.8)	ND(3)	9.18	ND(2.41)	ND(2.67)	ND(6.79)	ND(3.06)	ND(5.56)
Nona	ND(2.54)	ND(4.24)	ND(2.68)	ND(4.17)	ND(5.67)	ND(10.4)	ND(4.4)	ND(8.02)
Deca	ND(6.65)	ND(9.02)	ND(5.72)	ND(8.86)	ND(12.1)	ND(22.1)	ND(9.34)	ND(17.1)

APPENDIX H

PCB Concentrations in Soil Samples
in Rutland, Vermont
(pg/g)

Sample Date --	Method Blank 1987	Method Blank 1987	Quarterline 10/09/87	Rte. 3 10/09/87	Rte. 3 10/09/87	Municipal Office 10/13/87	River St. 10/13/87	Rte.4 10/13/87
PCBs:								
Mono	6	1.1	4.7	29	ND(8)	13.5	ND(0.5)	706
Di	57	43.5	97.2	89	88	240	9.3	5880
Tri	116	96.4	150	665	432	364	9.5	23200
Tetra	54	48.8	184	720	240	323	20.7	18300
Penta	51	50.7	450	4556	1256	793	49.9	120000
Hexa	16	15.6	262	4483	2274	844	71.1	299000
Hepta	1	0.994	73.6	803	2962	602	50	100000
Octa	ND(0.063)	ND(0.155)	28.2	400	1243	201	15.2	19500
Nona	ND(0.057)	ND(0.284)	16.6	111	334	49.9	12.2	2220
Deca	ND(0.235)	ND(0.604)	79.5	117	324	99.8	34.9	786

APPENDIX H (cont.)
(Soil)

	Monitoring Site							
	Watkins	Quarterline	Rte. 3	River St.	River St.	Municipal Office	Rte. 4	Watkins
Sample Date --	10/13/87	11/04/87	11/04/87	11/04/87	11/04/87	11/04/87	11/04/87	11/04/87
PCBs:								
Mono	13.5	11	11.7	10.3	10.8	12.2	97.8	17.7
Di	127	149	136	185	233	152	1040	212
Tri	182	227	220	374	533	220	3500	307
Tetra	240	234	395	505	930	199	27900	259
Penta	913	386	1930	1300	1650	526	51500	744
Hexa	1230	251	3100	1850	2330	731	45900	1230
Hepta	763	46.6	1850	1340	1960	620	32000	1150
Octa	316	16.7	695	425	591	237	7320	418
Nona	164	14.7	225	206	235	93	1010	178
Deca	293	170	342	365	347	131	358	304

APPENDIX H (cont.)
(Soil)

Sample Date --	Monitoring Site Method Blank	Quarterline	River St.	Rte.4	Watkins	Municipal Office	Creek Rd.	Rte. 3
	1988	06/29/88	06/29/88	06/29/88	06/29/88	06/29/88	06/29/88	6/29/88
PCBs:								
Mono	ND(2.59)	ND(1.52)	ND(38.70)	213	ND(2.96)	ND(10.70)	ND(5.05)	ND(7.65)
Di	12	22.6	123	1780	26.7	57.5	31.1	44.6
Tri	26.9	52.2	433	16800	40.9	89.3	42.4	121
Tetra	39.5	69.6	1010	28300	104	148	44.8	216
Penta	26.8	96.9	4120	36600	233	553	65.8	510
Hexa	9.57	90.1	10400	115000	434	2460	94.5	832
Hepta	1.01	14.7	8500	28000	160	1130	16.5	200
Octa	ND(0.11)	ND(2.88)	3610	7816	90.1	566	6.89	83.2
Nona	ND(0.46)	3.55	510	994	28.9	66.8	2.5	24.8
Deca	ND(0.43)	11.1	510	344	37	19.4	ND(0.44)	35.1

APPENDIX H

PCB Concentrations in Sediment Samples in Rutland, Vermont (pg/g)

Monitoring Site

	Rutland Reservoir	Otter Creek/ Rtes. 3,4	Otter Creek/ East Creek	Rocky Pond	Otter Creek/ City Line	Otter Creek/ Rtes. 3,4	Otter Creek/ Rtes. 3,4
Sample Date --	10/09/87	10/13/87	10/13/87	10/13/87	10/13/87	11/04/87	11/04/87
PCBs:							
Mono	9.99	30	15	ND(29)	ND(2.32)	8.53	ND(20)
Di	184	226	135	162	223	109	326
Tri	303	861	814	1200	378	196	ND(22)
Tetra	609	146	607	1006	928	551	ND(39)
Penta	2900	1814	2037	2793	3890	3060	778
Hexa	3150	745	1429	2754	2770	1680	ND(10)
Hepta	2470	178	555	2253	1580	601	ND(41)
Octa	683	ND(73)	243	710	449	136	ND(61)
Nona	145	ND(90)	22	ND(149)	80.4	31	ND(78)
Deca	ND(5.57)	ND(120)	22	ND(200)	77.9	87.4	ND(184)

APPENDIX H (cont.)
(Sediment)

Monitoring Site

	Otter Creek/ City Line	Otter Creek/ East Creek	Rutland Reservoir	Rocky Pond	Method Blank	Method Blank
Sample Date --	11/04/87	11/04/87	11/04/87	11/06/87	1987	1987
PCBs:						
Mono	11.9	13	ND(35)	ND(16)	6	1.1
Di	162	156	1480	1714	57	43.5
Tri	313	269	5815	8371	116	96.4
Tetra	750	681	1730	4529	54	48.8
Penta	2950	3320	3960	11960	51	50.7
Hexa	2070	2020	4015	8071	16	15.6
Hepta	778	806	3090	8457	1	0.994
Octa	207	208	1450	5300	ND(0.063)	ND(0.155)
Nona	46.2	40	223	1271	ND(0.057)	ND(0.284)
Deca	73.6	60.9	104	1400	ND(0.235)	ND(0.604)

APPENDIX H (cont.)
(Sediment)

	Monitoring Site					
	Rocky Pond	Otter Creek/ East Creek	Otter Creek/ City Line	Otter Creek/ Rtes. 3,4	Rutland Reservoir	Method Blank
Sample Date --	06/29/88	06/29/88	06/29/88	06/29/88	06/30/88	1988
Mono	ND(38.60)	4.66	ND(21.80)	85.4	87.4	ND(2.59)
Di	368	90.3	166	89.2	802	12
Tri	560	168	836	286	1540	26.9
Tetra	1370	212	2320	591	1820	39.5
Penta	3710	367	3490	615	2760	26.8
Hexa	3220	412	5500	672	3460	9.57
Hepta	967	107	1220	181	1440	1.01
Octa	522	34.9	346	65.8	607	ND(0.11)
Nona	237	7.08	35.4	14.6	108	ND(0.46)
Deca	266	ND(0.28)	24.5	11.2	65.6	ND(0.43)

APPENDIX H

PCB Concentrations in Milk Samples in Rutland, Vermont (pg/g)

Monitoring Site

	Method Blank	Rte. 3	Creek Rd.	Quarterline	Rte. 100	Rte. 100	Quarterline
Sample Date --	1987	10/09/87	10/09/87	10/13/87	11/03/87	11/03/87	11/04/87
PCBs:							
Mono	ND(0.18)	2.09	3.35	2.56	2.05	ND(1.1)	ND(0.544)
Di	1.81	18.4	27.8	27.7	7.11	7.55	7.49
Tri	5.49	4.79	8.17	15.2	1.89	1.67	ND(0.283)
Tetra	6.13	30	51.1	43.9	17.8	17.6	15.2
Penta	10.3	93.9	143	96.3	77.3	80.5	43.4
Hexa	5.92	52.5	78.2	68.5	44.8	48.6	29.8
Hepta	0.863	6.5	16.2	13.6	5.04	4.47	4.49
Octa	0.125	ND(0.144)	2.48	1.72	0.541	0.521	0.287
Nona	ND(0.0419)	ND(0.22)	ND(0.374)	ND(0.386)	ND(0.0891)	ND(0.15)	ND(0.0705)
Deca	ND(0.0859)	ND(0.469)	ND(0.795)	ND(0.564)	ND(0.189)	ND(0.132)	ND(0.157)

APPENDIX H (cont.)
(Milk)

Monitoring Site

Sample Date --	Rte. 3 11/04/87	Creek Rd. 11/06/87	Method Blank 1988	Rte. 3 06/29/88	Creek Rd. 06/29/88	Quarterline 06/29/88
PCBs:						
Mono	1.03	0.614	1.46	2.63	2.24	2.83
Di	9.54	7.64	19.8	21.7	24.5	85.4
Tri	3.82	3.27	35.5	47.7	48.4	52.9
Tetra	19.9	18.2	8.33	17	12.3	14.9
Penta	75.3	55.8	7.06	30	25.7	25.8
Hexa	54.8	37.9	4	26.4	17.7	23.8
Hepta	17.5	15.1	0.62	5.21	2.45	4.84
Octa	2.56	1.48	ND(0.80)	0.85	0.2	0.561
Nona	0.462	ND(0.187)	ND(0.30)	0.38	0.1	ND(0.04)
Deca	ND(0.268)	ND(0.314)	ND(0.39)	0.15	ND(0.04)	ND(0.08)

APPENDIX G

APPENDIX I

Concentration of Metals in Milk
(µg/g)[a]

Metal	Location	Market Milk	Fresh Milk	Reference
Lead	Cincinnati, OH	0.036 - 0.078 (0.050)[b]	0.009 - 0.212 (0.0466)[c]	Murthy et al., 1967
	Manchester, NH	0.030 - 0.089 (0.054)[b]	NR	
	Boston, MA	0.014 - 0.070 (0.035)[b]	NR	
	Providence, RI	0.021 - 0.066 (0.038)[b]	NR	
	Burlington, VT	0.041 - 0.062 (0.050)[b]	NR	
	Portland, ME	0.016 - 0.096 (0.060)[b]	NR	

[a] Dry weight

[b] Mean

[c] Weighted mean of 76 cows

NR = Not reported

APPENDIX I

Background Level Concentrations of Metals in Water
(μg/L)

Metal	Drinking Water	Surface Water	Freshwater	Remote Stream	Reference
Arsenic	10 - 100	NR	NR	NR	Jenkins, 1980
	NR	5 - 336 (64)[a]	NR	NR	Baxter et al., 1983
	<10,000	NR	NR	NR	McCabe et al., 1983 (cited in WHO, 1981)
Beryllium	0.01 - 1.22 (0.19)[a]	NR	<1	NR	U.S. EPA, 1978a
	NR	NR	(<0.001)[a]	NR	Bowen, 1966
	0.02- 0.17 (0.1)[a]	0.01- 1.22 (0.19)[a]	NR	NR	Koop, 1970 (cited in NAS, 1977)
Cadmium	(1.3)[a] 110[b]	NR	NR	NR	Ryan et al., 1982
	NR	NR	1	NR	NAS, 1977
	NR	NR	Rarely above 10	NR	Hem, 1970
	NR	NR	Usually <1	NR	Booz Allan and Hamilton, Inc., 1983
	12[a]	1- 120 (9.5)[a]	NR	NR	Koop, 1970 (cited in NAS, 1977)

APPENDIX I (cont.)

Metal	Drinking Water	Surface Water	Freshwater	Remote Stream	Reference
Chromium	0 - 79 (2.3)[a]	0 - 112 (9.7)[a]	NR	NR	U.S. EPA, 1978b
	0.4 - 8 (10)[a]	1 - 112[a] (9.7)[a]	NR	NR	U.S. EPA, 1980a
	0.43	NR	NR	NR	Hem, 1970
	NR	NR	0.1 - 6 (1)[a]	NR	Cary, 1982
Lead	3.7[a]	NR	NR	0.006 - 0.05	Hem, 1970
	NR	1 - 55 (3.9)[a]	NR	NR	U.S. EPA, 1983b
	50[c] ≈1000[b]	NR	NR	NR	U.S. EPA, 1980b
	3- 139 (33.9)[a]	2- 140 (23)[a]	NR	NR	Koop, 1970 (cited in NAS, 1977)
Mercury	0.01 - 0.05	NR	NR	NR	U.S. EPA, 1984c
	NR	NR	>2[a]	NR	Fleischer, 1970

APPENDIX I (cont.)

Metal	Drinking Water	Surface Water	Freshwater	Remote Stream	Reference
Nickel	20^c 75^b	NR	$(>1)^a$	NR	U.S. EPA, 1980c
	$<2.7^d$ $(4.8)^a$	NR	NR	NR	Hem, 1970
	NR	0 - 12.5	NR	NR	IARC, 1973
	$(4.8)^a$	NR	NR	NR	NAS, 1975
	$(4.8)^a$	<5 - >600	NR	NR	U.S. EPA, 1986e
	1- 490 $(34.2)^a$	1- 130 $(19)^a$	NR	NR	Koop, 1970 (cited in NAS, 1977)

[a] Mean

[b] Maximum

[c] 99th percentile

[d] Median

NR = Not reported

APPENDIX I

Concentration of Metals in Soil
(μg/g)

Metal	Soil Type	Background	Farm	Urban	Other Areas	Reference
Arsenic						
	NR	0.5 - 14.0	NR	NR	NR	Ratsch, 1974
	NR	0.1 - 40 (6)[a]	NR	NR	NR	Allaway, 1968
	NR	<1 - 40	NR	NR	NR	U.S. EPA, 1984d
	NR	NR	NR	NR	(6)[a,b]	Bignoli and Sabbioni, 1984
	NR	1 - 50 (5)[a]	NR	NR	NR	Lindsay, 1979
	All types	6.27	NR	NR	NR	Frank et al., 1976
	NR	(5 - 6)[a]	NR	NR	NR	Fishbein et al., 1981
	NR	NR	NR	NR	<10[a]	Cerelius,1974 (cited in WHO, 1981)
Beryllium						
	NR	1 - 7 (1)[a]	NR	NR	NR	U.S. EPA, 1978a
	NR	0.1 - 40 (6)[a]	NR	NR	NR	Drury et al., 1978
	NR	0.1 - 40 (6)[a]	NR	NR	NR	Lindsay, 1979

APPENDIX I (cont.)

Metal	Soil Type	Background	Farm	Urban	Other Areas	Reference
Cadmium	NR	$(0.09 - 0.18)^a$	NR	NR	NR	Beyer et al., 1982
	NR	0.01 - 22 $(0.06 - 0.5)^a$	NR	NR	NR	Ryan et al., 1982
	NR	$(0.27)^a$ 0.20^c	NR	NR	NR	Holmgren, 1985
	NR	NR	<0.1 - 2.9 $(0.2)^a$	NR	NR	Pierce et al., 1982
	NR	0.01 - 0.7 $(0.06)^a$	NR	NR	NR	Lindsay, 1979
Chromium	NR	Trace - 250 $(100)^a$	NR	NR	NR	Fishbein, 1981
	NR	1 - 1000 $(100)^a$	NR	NR	NR	Lindsay, 1979
	NR	5 - 3000 100^c	NR	NR	NR	Allaway, 1968
	NR	5 - 1500	NR	NR	NR	Cary, 1982
	NR	<5 - 300	NR	NR	NR	U.S. EPA, 1978b
	NR	1 - 1000	NR	NR	NR	U.S. EPA, 1983c
	NR	5 - 3000 $(40)^a$	NR	NR	NR	NAS, 1974

APPENDIX I (cont.)

Metal	Soil Type	Background	Farm	Urban	Other Areas	Reference
Lead						
	NR	2 - 200 (10)^{a}	NR	NR	NR	Allaway, 1968
	NR	NR	2 - 200 (16)^{a}	NR	NR	Demayo et al., 1982
	NR	NR	9 - 39 (19)^{c}	NR	NR	Logan and Miller, 1983
	NR	NR	NR	NR	35 - 451^{d} (152)^{a}	Brown et al., 1985
	NR	2 - 200 (10)^{a}	NR	NR	NR	Lindsay, 1979
	NR	(10)^{a}	NR	NR	NR	Fishbein, 1981
	All types	14.1	NR	NR	NR	Frank et al., 1976
Mercury						
	NR	0.045 - 0.160	NR	NR	NR	Erdman et al., 1976
	NR	(0.1)^{a}	NR	NR	NR	U.S. Geological Survey, 1970
	NR	0.01 - 0.5 (0.1)^{a}	NR	NR	NR	Ratsch, 1974
	NR	0.01 - 0.3 (0.03)^{a}	NR	NR	NR	Lindsay, 1979
	NR	(0.05)^{a}	NR	NR	NR	Fishbein, 1981
	All types	0.08	NR	NR	NR	Frank et al., 1976

APPENDIX I (cont.)

Metal	Soil Type	Background	Farm	Urban	Other Areas	Reference
Nickel	NR	10 - 1000 (40)[a]	NR	NR	NR	Allaway, 1968
	NR	NR	9 - 38 (18)[a]	NR	NR	Logan and Miller, 1983
	NR	NR	>0.6 - 269 (24.2)[a] 18.6[c]	NR	NR	Holmgren, 1983
	NR	5 - 500 (40)[a]	NR	NR	NR	Lindsay, 1979
	NR	(40)[a]	NR	NR	NR	Vinogradov, 1959
	NR	5 - 500	NR	NR	NR	NAS, 1975
	NR	5 - 500 (50)[a]	NR	NR	NR	U.S. EPA, 1986e

[a] Mean

[b] Power plant area

[c] Median

[d] Smelter area

[e] Sediment

NR = Not reported

APPENDIX H

ONE-WAY ANALYSIS OF VARIANCE FOR ARSENIC IN SOIL, BY MONTH

```
                                    Analysis of variance
--------------------------------------------------------------------------------
Source of variation     Sum of Squares    d.f.    Mean square    F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups               11.343810       2      5.6719048      2.275       .1316
Within groups                44.885714      18      2.4936508
--------------------------------------------------------------------------------
Total (corrected)            56.229524      20

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR ARSENIC IN SOIL

Sample 1 is for June 1988
Sample 2 is for October/November 1987

```
                          Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                           Sample 1      Sample 2      Pooled
Sample Statistics: Number of Obs.          7             14            21
                   Average                 4.41429       4.85          4.70476
                   Variance                1.50143       3.56423       2.91282
                   Std. Deviation          1.22533       1.88792       1.7067
                   Median                  4.6           4.75          4.6

Difference between Means = -0.435714
Conf. Interval For Diff. in Means:         95    Percent
 (Equal Vars.)      Sample 1 - Sample 2    -2.08971 1.21828      19 D.F.
 (Unequal Vars.)    Sample 1 - Sample 2    -1.87861 1.00718    17.4 D.F.

Ratio of Variances = 0.421249
Conf. Interval for Ratio of Variances:     0     Percent
                    Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0           Computed t statistic = -0.551504
                     vs Alt: NE            Sig. Level = 0.587717
                  at Alpha = 0.05          so do not reject HO.
```

KRUSWAL-WALLIS ANALYSIS OF ARSENIC IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of soas by soilmon
--------------------------------------------------------------------------------
Level               Sample Size     Average Rank
--------------------------------------------------------------------------------
1                         7             14.6429
2                         7             8.21429
3                         7             10.1429
--------------------------------------------------------------------------------
Test statistic = 3.96505  Significance level  = 0.137721
```

ONE-WAY ANALYSIS OF VARIANCE FOR BERYLLIUM IN SOIL, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups              .0038095      2      .0019048      .706       .5068
Within groups               .0485714     18      .0026984
--------------------------------------------------------------------------------
Total (corrected)           .0523810     20

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR BERYLLIUM IN SOIL

Sample 1 is for June 1988
Sample 2 is for October/November 1987

```
                              Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                         Sample 1     Sample 2      Pooled
Sample Statistics: Number of Obs.        7            14            21
                   Average               0.2          0.171429      0.180952
                   Variance              0            3.73626E-3    2.55639E-3
                   Std. Deviation        0            0.061125      0.0505608
                   Median                0.2          0.2           0.2

Difference between Means = 0.0285714
Conf. Interval For Diff. in Means:                 Percent
 (Equal Vars.)     Sample 1 - Sample 2
 (Unequal Vars.)   Sample 1 - Sample 2

Ratio of Variances = 0
Conf. Interval for Ratio of Variances:             Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff =           Computed t statistic =
                          vs Alt:        Sig. Level =
                        at Alpha =
```

KRUSKAL-WALLIS ANALYSIS OF BERYLLIUM IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of sobe by soilmon
--------------------------------------------------------------------------------
Level              Sample Size     Average Rank
--------------------------------------------------------------------------------
1                          7           9.85714
2                          7          10.1429
3                          7          13.0000
--------------------------------------------------------------------------------
Test statistic = 1.7619  Significance level  = 0.414388
```

ONE-WAY ANALYSIS OF VARIANCE FOR CADMIUM IN SOIL, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups              .2352381      2      .1176190      .365       .6991
Within groups              5.7971429     18      .3220635
--------------------------------------------------------------------------------
Total (corrected)          6.0323810     20

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR CADMIUM IN SOIL

Sample 1 is for June 1988
Sample 2 is for October/November 1987

```
                          Two-Sample Analysis Results
--------------------------------------------------------------------------------
                                        Sample 1     Sample 2     Pooled
Sample Statistics: Number of Obs.       7            14           21
                   Average              0.8          0.578571     0.652381
                   Variance             0.45         0.238736     0.305451
                   Std. Deviation       0.67082      0.488606     0.552676
                   Median               0.5          0.5          0.5

Difference between Means = 0.221429
Conf. Interval For Diff. in Means:      95    Percent
 (Equal Vars.)    Sample 1 - Sample 2   -0.31418 0.757037     19 D.F.
 (Unequal Vars.)  Sample 1 - Sample 2   -0.420718 0.863576    9.3 D.F.

Ratio of Variances = 1.88493
Conf. Interval for Ratio of Variances:  0     Percent
                  Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0        Computed t statistic = 0.865498
                       vs Alt: NE       Sig. Level = 0.397562
                    at Alpha = 0.05     so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF CADMIUM IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------
Kruskal-Wallis analysis of socd by soilmon
--------------------------------------------------------------------
Level            Sample Size     Average Rank
--------------------------------------------------------------------
1                     7             6.57143
2                     7            12.9286
3                     7            13.5000
--------------------------------------------------------------------
Test statistic = 6.37633  Significance level  = 0.0412474
```

ONE-WAY ANALYSIS OF VARIANCE FOR CHROMIUM IN SOIL, BY MONTH

```
                                Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups               320.384      2     160.19190      .285       .7552
Within groups              10112.626     18     561.81254
--------------------------------------------------------------------------------
Total (corrected)          10433.010     20

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR CHROMIUM IN SOIL

Sample 1 is for June 1988
Sample 2 is for October/November 1987

```
                         Two-Sample Analysis Results
---------------------------------------------------------------------------
                                           Sample 1    Sample 2    Pooled
Sample Statistics: Number of Obs.          7           14          21
                   Average                 15.9714     11.8071     13.1952
                   Variance                735.886     456.675     544.847
                   Std. Deviation          27.1272     21.3699     23.3419
                   Median                  5.5         5.4         5.5

Difference between Means = 4.16429
Conf. Interval For Diff. in Means:         95    Percent
 (Equal Vars.)     Sample 1 - Sample 2     -18.4568 26.7854     19 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2     -22.0427 30.3713    9.9 D.F.

Ratio of Variances = 1.6114
Conf. Interval for Ratio of Variances:     0     Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0           Computed t statistic = 0.385396
                    vs Alt: NE             Sig. Level = 0.704225
                 at Alpha = 0.05           so do not reject HO.
```

KRUSKAL-WALLIS ANALYSIS OF CHROMIUM IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------
Kruskal-Wallis analysis of socr by soilmon
--------------------------------------------------------------------
Level              Sample Size    Average Rank
--------------------------------------------------------------------
1                        7           8.57143
2                        7          12.3571
3                        7          12.0714
--------------------------------------------------------------------
Test statistic = 1.62122  Significance level  = 0.444587
```

ONE-WAY ANALYSIS OF VARIANCE FOR LEAD IN SOIL, BY MONTH

Analysis of variance

Source of variation	Sum of Squares	d.f.	Mean square	F-ratio	Sig. level
Between groups	4327.76	2	2163.8805	.382	.6877
Within groups	101894.40	18	5660.7998		
Total (corrected)	106222.16	20			

0 missing value(s) have been excluded.

TWO-SAMPLE POOLED t-TEST FOR LEAD IN SOIL

Sample 1 is for June 1988
Sample 2 is for October/November 1987

```
                         Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                          Sample 1     Sample 2     Pooled
Sample Statistics: Number of Obs.         7            14           21
                   Average                79.3143      53.9071      62.3762
                   Variance               8826.4       3865.49      5432.09
                   Std. Deviation         93.9489      62.173       73.7027
                   Median                 29.8         25.45        26.6

Difference between Means = 25.4071
Conf. Interval For Diff. in Means:        95     Percent
 (Equal Vars.)     Sample 1 - Sample 2    -46.0195 96.8337     19 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2    -63.7371 114.551    8.7 D.F.

Ratio of Variances = 2.28339
Conf. Interval for Ratio of Variances:    0      Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0          Computed t statistic = 0.74469
                        vs Alt: NE        Sig. Level = 0.465571
                     at Alpha = 0.05      so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF LEAD IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
------------------------------------------------------------------------
Kruskal-Wallis analysis of sopb by soilmon
------------------------------------------------------------------------
Level             Sample Size     Average Rank
------------------------------------------------------------------------
1                        7            10.7143
2                        7            10.0000
3                        7            12.2857
------------------------------------------------------------------------
Test statistic = 0.497217  Significance level  = 0.779885
```

ONE-WAY ANALYSIS OF VARIANCE FOR MERCURY IN SOIL, BY MONTH

Analysis of variance

Source of variation	Sum of Squares	d.f.	Mean square	F-ratio	Sig. level
Between groups	.0318381	2	.0159190	.544	.5896
Within groups	.5265429	18	.0292524		
Total (corrected)	.5583810	20			

0 missing value(s) have been excluded.

TWO-SAMPLE POOLED t-TEST FOR MERCURY IN SOIL

Sample 1 is for June 1988
Sample 2 is for October/November 1987

```
                                   Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                          Sample 1     Sample 2     Pooled
Sample Statistics: Number of Obs.         7            14           21
                   Average                0.11         0.143571     0.132381
                   Variance               0.0346       0.0265786    0.0291117
                   Std. Deviation         0.186011     0.163029     0.170621
                   Median                 0.05         0.1          0.1

Difference between Means = -0.0335714
Conf. Interval For Diff. in Means:        95    Percent
 (Equal Vars.)     Sample 1 - Sample 2    -0.198924 0.131781      19 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2    -0.216162 0.149019    10.8 D.F.

Ratio of Variances = 1.3018
Conf. Interval for Ratio of Variances:    0     Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0          Computed t statistic = -0.42505
                      vs Alt: NE          Sig. Level = 0.675575
                     at Alpha = 0.05      so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF MERCURY IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of sohg by soilmon
--------------------------------------------------------------------------------
Level            Sample Size     Average Rank
--------------------------------------------------------------------------------
1                      7             14.1429
2                      7             13.0000
3                      7             5.85714
--------------------------------------------------------------------------------
Test statistic = 9.61791  Significance level  = 8.15637E-3
```

ONE-WAY ANALYSIS OF VARIANCE FOR NICKEL IN SOIL, BY MONTH

Analysis of variance

Source of variation	Sum of Squares	d.f.	Mean square	F-ratio	Sig. level
Between groups	874.641	2	437.3205	.353	.7072
Within groups	22287.991	18	1238.2217		
Total (corrected)	23162.632	20			

0 missing value(s) have been excluded.

TWO-SAMPLE POOLED t-TEST FOR NICKEL IN SOIL

Sample 1 is for June 1988
Sample 2 is for October/November 1987

```
                          Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                        Sample 1     Sample 2     Pooled
Sample Statistics: Number of Obs.       7            14           21
                   Average              19.4286      17.2143      17.9524
                   Variance             902.219      1363.57      1217.88
                   Std. Deviation       30.037       36.9266      34.8982
                   Median               7.6          5.75         6.6

Difference between Means = 2.21429
Conf. Interval For Diff. in Means:      95    Percent
 (Equal Vars.)    Sample 1 - Sample 2   -31.6061 36.0347      19 D.F.
 (Unequal Vars.)  Sample 1 - Sample 2   -29.9262 34.3548    14.6 D.F.

Ratio of Variances = 0.661658
Conf. Interval for Ratio of Variances:  0     Percent
                  Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0        Computed t statistic = 0.137068
                       vs Alt: NE       Sig. Level = 0.892419
                    at Alpha = 0.05     so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF NICKEL IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
Kruskal-Wallis analysis of soni by soilmon

Level             Sample Size   Average Rank

1                        7          8.71429
2                        7          9.42857
3                        7          14.8571

Test statistic = 4.11191  Significance level  = 0.127971
```

ONE-WAY ANALYSIS OF VARIANCE FOR ARSENIC IN SEDIMENT, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares    d.f.    Mean square    F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups              2.428000       2      1.2140000       .526       .6039
Within groups              27.688000      12      2.3073333
--------------------------------------------------------------------------------
Total (corrected)          30.116000      14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR ARSENIC IN SEDIMENT

nseas is for October/November 1987
oseas is for June 1988

```
                              Two-Sample Analysis Results
------------------------------------------------------------------------------------------
                                              nseas           oseas           Pooled
Sample Statistics: Number of Obs.             10              5               15
                   Average                    3.12            2.34            2.86
                   Variance                   2.49511         1.408           2.16062
                   Std. Deviation             1.57959         1.18659         1.4699
                   Median                     3.6             2.9             3.1

Difference between Means = 0.78
Conf. Interval For Diff. in Means:            95     Percent
 (Equal Vars.)     Sample 1 - Sample 2        -0.959755 2.51975      13 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2        -0.832868 2.39287    10.5 D.F.

Ratio of Variances = 1.7721
Conf. Interval for Ratio of Variances:        0      Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0              Computed t statistic = 0.968825
                        vs Alt: NE            Sig. Level = 0.350313
                     at Alpha = 0.05          so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF ARSENIC IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of seas by sedmon
--------------------------------------------------------------------------------
Level             Sample Size      Average Rank
--------------------------------------------------------------------------------
1                       5             9.90000
2                       5             8.20000
3                       5             5.90000
--------------------------------------------------------------------------------
Test statistic = 2.02222  Significance level  = 0.363815
```

ONE-WAY ANALYSIS OF VARIANCE FOR BERYLLIUM IN SEDIMENT, BY MONTH

```
                                 Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups               .0208133     2      .0104067     2.326       .1400
Within groups                .0536800    12      .0044733
--------------------------------------------------------------------------------
Total (corrected)            .0744933    14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR BERYLLIUM IN SEDIMENT

nsebe is for October/November 1987
osebe is for June 1988

```
                              Two-Sample Analysis Results
-------------------------------------------------------------------------------------
                                             nsebe           osebe         Pooled
Sample Statistics: Number of Obs.            10              5             15
                   Average                   0.161           0.12          0.147333
                   Variance                  6.76556E-3      2E-3          5.29923E-3
                   Std. Deviation            0.082253        0.0447214     0.0727958
                   Median                    0.2             0.1           0.1

Difference between Means = 0.041
Conf. Interval For Diff. in Means:           95     Percent
 (Equal Vars.)    Sample 1 - Sample 2        -0.04516 0.12716      13 D.F.
 (Unequal Vars.)  Sample 1 - Sample 2        -0.03004 0.11204    12.8 D.F.

Ratio of Variances = 3.38278
Conf. Interval for Ratio of Variances:       0      Percent
                  Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0             Computed t statistic = 1.02829
                        vs Alt: NE           Sig. Level = 0.322566
                     at Alpha = 0.05         so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF BERYLLIUM IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
------------------------------------------------------------------------------
Kruskal-Wallis analysis of sebe by sedmon
------------------------------------------------------------------------------
Level                Sample Size     Average Rank
------------------------------------------------------------------------------
1                          5            6.80000
2                          5           10.9000
3                          5            6.30000
------------------------------------------------------------------------------
Test statistic = 3.80299  Significance level  = 0.149346
```

ONE-WAY ANALYSIS OF VARIANCE FOR CADMIUM IN SEDIMENT, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups               .4853333     2      .2426667     2.528       .1213
Within groups               1.1520000    12      .0960000
--------------------------------------------------------------------------------
Total (corrected)           1.6373333    14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR CADMIUM IN SEDIMENT

nsecd is for October/November 1987
osecd is for June 1988

```
                              Two-Sample Analysis Results
------------------------------------------------------------------------------------
                                         nsecd        osecd        Pooled
Sample Statistics: Number of Obs.        10           5            15
                   Average               0.52         0.5          0.513333
                   Variance              0.181778     0            0.125846
                   Std. Deviation        0.426354     0            0.354748
                   Median                0.4          0.5          0.5

Difference between Means = 0.02
Conf. Interval For Diff. in Means:            Percent
 (Equal Vars.)     Sample 1 - Sample 2
 (Unequal Vars.)   Sample 1 - Sample 2

Ratio of Variances = 0
Conf. Interval for Ratio of Variances:        Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff =           Computed t statistic =
                        vs Alt:          Sig. Level =
                      at Alpha =
```

KRUSKAL-WALLIS ANALYSIS OF CADMIUM IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of secd by sedmon
--------------------------------------------------------------------------------
Level             Sample Size     Average Rank
--------------------------------------------------------------------------------
1                      5             3.00000
2                      5             11.0000
3                      5             10.0000
--------------------------------------------------------------------------------
Test statistic = 12.6667  Significance level  = 1.7761E-3
```

ONE-WAY ANALYSIS OF VARIANCE FOR CHROMIUM IN SEDIMENT, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation    Sum of Squares    d.f.    Mean square    F-ratio    Sig. level
--------------------------------------------------------------------------------
Between groups               3.497333       2      1.7486667       .485        .6275
Within groups               43.296000      12      3.6080000
--------------------------------------------------------------------------------
Total (corrected)           46.793333      14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR CHROMIUM IN SEDIMENT

nsecr is for October/November 1987
osecr is for June 1988

```
                              Two-Sample Analysis Results
---------------------------------------------------------------------------------------
                                         nsecr          osecr          Pooled
Sample Statistics: Number of Obs.        10             5              15
                   Average               3.69           3.62           3.66667
                   Variance              4.12544        2.412          3.59823
                   Std. Deviation        2.03112        1.55306        1.8969
                   Median                4.5            4.1            4.2

Difference between Means = 0.07
Conf. Interval For Diff. in Means:       95    Percent
 (Equal Vars.)     Sample 1 - Sample 2   -2.17514 2.31514       13 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2   -2.02774 2.16774     10.4 D.F.

Ratio of Variances = 1.71038
Conf. Interval for Ratio of Variances:   0     Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0         Computed t statistic = 0.0673741
                      vs Alt: NE         Sig. Level = 0.947309
                   at Alpha = 0.05       so do not reject HO.
```

KRUSKAL-WALLIS ANALYSIS OF CHROMIUM IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
------------------------------------------------------------------------------
Kruskal-Wallis analysis of secr by sedmon
------------------------------------------------------------------------------
Level               Sample Size     Average Rank
------------------------------------------------------------------------------
1                         5              6.30000
2                         5              11.0000
3                         5              6.70000
------------------------------------------------------------------------------
Test statistic = 3.40107  Significance level  = 0.182586
```

ONE-WAY ANALYSIS OF VARIANCE FOR LEAD IN SEDIMENT, BY MONTH

```
                            Analysis of variance
-----------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio  Sig. level
-----------------------------------------------------------------------------
Between groups              34.04133      2     17.020667      .804       .4701
Within groups              253.95600     12     21.163000
-----------------------------------------------------------------------------
Total (corrected)          287.99733     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR LEAD IN SEDIMENT

nsepb is for October/November 1987
osepb is for June 1988

```
                          Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                         nsepb         osepb         Pooled
Sample Statistics: Number of Obs.        10            5             15
                   Average               12.19         10.76         11.7133
                   Variance              24.0943       16.083        21.6293
                   Std. Deviation        4.9086        4.01036       4.65073
                   Median                10.85         10.1          10.8

Difference between Means = 1.43
Conf. Interval For Diff. in Means:       95    Percent
 (Equal Vars.)    Sample 1 - Sample 2    -4.07453 6.93453     13 D.F.
 (Unequal Vars.)  Sample 1 - Sample 2    -3.87148 6.73148    9.8 D.F.

Ratio of Variances = 1.49812
Conf. Interval for Ratio of Variances:   0     Percent
                  Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0         Computed t statistic = 0.561376
                        vs Alt: NE       Sig. Level = 0.584089
                     at Alpha = 0.05     so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF LEAD IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of sepb by sedmon
--------------------------------------------------------------------------------
Level              Sample Size      Average Rank
--------------------------------------------------------------------------------
1                        5               7.10000
2                        5               9.70000
3                        5               7.20000
--------------------------------------------------------------------------------
Test statistic = 1.08694  Significance level  = 0.580729
```

ONE-WAY ANALYSIS OF VARIANCE FOR MERCURY IN SEDIMENT, BY MONTH

```
                                Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups              .0213333      2      .0106667   999.999        .0000
Within groups               .0000000     12      .0000000
--------------------------------------------------------------------------------
Total (corrected)           .0213333     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR MERCURY IN SEDIMENT

nsehg is for October/November 1987
osehg is for June 1988

```
                         Two-Sample Analysis Results
--------------------------------------------------------------------------------
                                        nsehg         osehg         Pooled
Sample Statistics: Number of Obs.       10            5             15
                   Average              0.1           0.02          0.0733333
                   Variance             0             0             0
                   Std. Deviation       0             0             0
                   Median               0.1           0.02          0.1

Difference between Means = 0.08
Conf. Interval For Diff. in Means:            Percent
 (Equal Vars.)     Sample 1 - Sample 2
 (Unequal Vars.)   Sample 1 - Sample 2

Ratio of Variances = 0
Conf. Interval for Ratio of Variances:        Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff =          Computed t statistic =
                        vs Alt:         Sig. Level =
                      at Alpha =
```

KRUSKAL-WALLIS ANALYSIS OF MERCURY IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of sehg by sedmon
--------------------------------------------------------------------------------
Level               Sample Size     Average Rank
--------------------------------------------------------------------------------
1                        5             10.5000
2                        5             10.5000
3                        5             3.00000
--------------------------------------------------------------------------------
Test statistic = 14  Significance level  = 9.11882E-4
```

ONE-WAY ANALYSIS OF VARIANCE FOR NICKEL IN SEDIMENT, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation  Sum of Squares  d.f.  Mean square  F-ratio  Sig. level
--------------------------------------------------------------------------------
Between groups            10.852000     2    5.4260000    1.364      .2926
Within groups             47.744000    12    3.9786667
--------------------------------------------------------------------------------
Total (corrected)         58.596000    14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR NICKEL IN SEDIMENT

nseni is for October/November 1987
oseni is for June 1988

```
                         Two-Sample Analysis Results
------------------------------------------------------------------------------------
                                            nseni        oseni        Pooled
Sample Statistics: Number of Obs.           10           5            15
                   Average                  3.98         5.66         4.54
                   Variance                 3.61511      4.163        3.78369
                   Std. Deviation           1.90134      2.04034      1.94517
                   Median                   4.3          5.6          4.5

Difference between Means = -1.68
Conf. Interval For Diff. in Means:          95    Percent
 (Equal Vars.)    Sample 1 - Sample 2       -3.98227 0.622275     13 D.F.
 (Unequal Vars.)  Sample 1 - Sample 2       -4.22441 0.86441    7.6 D.F.

Ratio of Variances = 0.868391
Conf. Interval for Ratio of Variances:      0     Percent
                  Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0            Computed t statistic = -1.57685
                        vs Alt: NE          Sig. Level = 0.138844
                     at Alpha = 0.05        so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF NICKEL IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of seni by sedmon
--------------------------------------------------------------------------------
Level            Sample Size     Average Rank
--------------------------------------------------------------------------------
1                     5             7.70000
2                     5             5.80000
3                     5            10.5000
--------------------------------------------------------------------------------
Test statistic = 2.80502  Significance level  = 0.245979
```

ONE-WAY ANALYSIS OF VARIANCE FOR
CHROMIUM IN WATER, BY MONTH

```
                                 Analysis of variance
-----------------------------------------------------------------------------
Source of variation  Sum of Squares   d.f.   Mean square   F-ratio  Sig. level
-----------------------------------------------------------------------------
Between groups            2.1333333      2     1.0666667     2.667      .1101
Within groups             4.8000000     12      .4000000
-----------------------------------------------------------------------------
Total (corrected)         6.9333333     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR CHROMIUM IN WATER

ncr is for October/November 1987
ocr is for June 1988

```
                           Two-Sample Analysis Results
-----------------------------------------------------------------------------------
                                          ncr           ocr          Pooled
Sample Statistics: Number of Obs.         10            5            15
                   Average                2.4           2            2.26667
                   Variance               0.711111      0            0.492308
                   Std. Deviation         0.843274      0            0.701646
                   Median                 2             2            2

Difference between Means = 0.4
Conf. Interval For Diff. in Means:                 Percent
 (Equal Vars.)     Sample 1 - Sample 2
 (Unequal Vars.)   Sample 1 - Sample 2

Ratio of Variances = 0
Conf. Interval for Ratio of Variances:             Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff =            Computed t statistic =
                           vs Alt:        Sig. Level =
                     at Alpha =
```

KRUSKAL-WALLIS ANALYSIS OF CHROMIUM IN WATER, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of cr by ho
--------------------------------------------------------------------------------
Level              Sample Size     Average Rank
--------------------------------------------------------------------------------
1                          5              10.0000
2                          5              7.00000
3                          5              7.00000
--------------------------------------------------------------------------------
Test statistic = 4.30769  Significance level  = 0.116037
```

ONE-WAY ANALYSIS OF VARIANCE FOR LEAD IN WATER, BY MONTH

```
                                Analysis of variance
--------------------------------------------------------------------------------
Source of variation    Sum of Squares   d.f.    Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups               48.93333      2      24.466667     1.808       .2059
Within groups               162.40000     12      13.533333
--------------------------------------------------------------------------------
Total (corrected)           211.33333     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR LEAD IN WATER

npb is for October/November 1987
opb is for June 1988

```
                         Two-Sample Analysis Results
--------------------------------------------------------------------------------
                                          npb          opb          Pooled
Sample Statistics: Number of Obs.         10           5            15
                   Average                8.5          5            7.33333
                   Variance               18.9444      0            13.1154
                   Std. Deviation         4.35252      0            3.62152
                   Median                 7            5            5

Difference between Means = 3.5
Conf. Interval For Diff. in Means:             Percent
 (Equal Vars.)     Sample 1 - Sample 2
 (Unequal Vars.)   Sample 1 - Sample 2

Ratio of Variances = 0
Conf. Interval for Ratio of Variances:         Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff =            Computed t statistic =
                        vs Alt:           Sig. Level =
                     at Alpha =
```

88888888888

KRUSKAL-WALLIS ANALYSIS OF LEAD IN WATER, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of pb by ho
--------------------------------------------------------------------------------
Level              Sample Size     Average Rank
--------------------------------------------------------------------------------
1                        5              12.0000
2                        5              7.00000
3                        5              5.00000
--------------------------------------------------------------------------------
Test statistic = 8.29157  Significance level  = 0.015831
```

ONE-WAY ANALYSIS OF VARIANCE FOR LEAD IN MILK, BY MONTH

```
                              Analysis of variance
----------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio    Sig. level
----------------------------------------------------------------------------------
Between groups              14486.222     2     7243.1111    10.836        .0102
Within groups                4010.667     6      668.4444
----------------------------------------------------------------------------------
Total (corrected)           18496.889     8

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR LEAD IN MILK

npb is for October/November 1987
opb is for June 1988

```
                         Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                         npb          opb          Pooled
Sample Statistics: Number of Obs.        6            3            9
                   Average               80.3333      25           61.8889
                   Variance              2474.67      0            1767.62
                   Std. Deviation        49.746       0            42.0431
                   Median                87           25           49

Difference between Means = 55.3333
Conf. Interval For Diff. in Means:             Percent
 (Equal Vars.)     Sample 1 - Sample 2
 (Unequal Vars.)   Sample 1 - Sample 2

Ratio of Variances = 0
Conf. Interval for Ratio of Variances:         Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff =           Computed t statistic =
                        vs Alt:          Sig. Level =
                     at Alpha =
```

KRUSKAL-WALLIS ANALYSIS OF LEAD IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of mipb by milkmon
--------------------------------------------------------------------------------
Level             Sample Size     Average Rank
--------------------------------------------------------------------------------
1                       3             8.00000
2                       3             4.00000
3                       3             3.00000
--------------------------------------------------------------------------------
Test statistic = 5.7931  Significance level  = 0.0552133
```

MULTIPLE RANGE ANALYSIS FOR LEAD IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
                  Multiple range analysis for mipb by milkmon
--------------------------------------------------------------------------------
Method: 95 Percent Scheffe
Level     Count         Average   Homogeneous Groups
--------------------------------------------------------------------------------
3             3        25.00000    *
2             3        43.00000    *
1             3       117.66667     *
--------------------------------------------------------------------------------
```

ONE-WAY ANALYSIS OF VARIANCE FOR CHROMIUM IN MILK, BY MONTH

```
                                 Analysis of variance
------------------------------------------------------------------------------------
Source of variation     Sum of Squares    d.f.     Mean square    F-ratio    Sig. level
------------------------------------------------------------------------------------
Between groups               42.000000       2       21.000000      1.615       .2746
Within groups                78.000000       6       13.000000
------------------------------------------------------------------------------------
Total (corrected)            120.00000       8

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR CHROMIUM IN MILK

ncr is for October/November 1987
ocr is for June 1988

```
                          Two-Sample Analysis Results
--------------------------------------------------------------------------------
                                         ncr           ocr           Pooled
Sample Statistics: Number of Obs.        6             3             9
                   Average               6.5           5             6
                   Variance              23.1          0             16.5
                   Std. Deviation        4.80625       0             4.06202
                   Median                6             5             5

Difference between Means = 1.5
Conf. Interval For Diff. in Means:                Percent
 (Equal Vars.)     Sample 1 - Sample 2
 (Unequal Vars.)   Sample 1 - Sample 2

Ratio of Variances = 0
Conf. Interval for Ratio of Variances:            Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff =              Computed t statistic =
                          vs Alt:           Sig. Level =
                     at Alpha =
```

KRUSKAL-WALLIS ANALYSIS OF CHROMIUM IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of micr by milkmon
--------------------------------------------------------------------------------
Level            Sample Size     Average Rank
--------------------------------------------------------------------------------
1                      3             7.33333
2                      3             3.66667
3                      3             4.00000
--------------------------------------------------------------------------------
Test statistic = 3.46199  Significance level  = 0.177108
```

ONE-WAY ANALYSIS OF VARIANCE FOR PCBs IN SOIL, BY MONTH

```
                                 Analysis of variance
------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
------------------------------------------------------------------------------
Between groups            3.3160E0010      2   1.6580E0010      .465       .6372
Within groups             5.3534E0011     15   3.5689E0010
------------------------------------------------------------------------------
Total (corrected)         5.6850E0011     17

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR PCBS IN SOIL

Sample 1 is for October/November 1987
Sample 2 is for June 1988

```
                           Two-Sample Analysis Results
------------------------------------------------------------------------------------
                                        Sample 1       Sample 2       Pooled
Sample Statistics: Number of Obs.       12             6              18
                   Average              80908.9        45553.3        69123.7
                   Variance             4.72161E10     8.82439E9      3.52187E10
                   Std. Deviation       217293         93938.2        187666
                   Median               4251           3467           4251

Difference between Means = 35355.6
Conf. Interval For Diff. in Means:      95    Percent
 (Equal Vars.)    Sample 1 - Sample 2   -163611 234322      16 D.F.
 (Unequal Vars.)  Sample 1 - Sample 2   -120638 191349    15.9 D.F.

Ratio of Variances = 5.35064
Conf. Interval for Ratio of Variances:  0     Percent
                  Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0        Computed t statistic = 0.376792
                      vs Alt: NE        Sig. Level = 0.711279
                   at Alpha = 0.05      so do not reject HO.
```

KRUSKAL-WALLIS ANALYSIS OF PCBs IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of soilpcb by soilmon
--------------------------------------------------------------------------------
Level              Sample Size     Average Rank
--------------------------------------------------------------------------------
  1                      6             9.00000
  2                      6            10.5000
  3                      6             9.00000
--------------------------------------------------------------------------------
Test statistic = 0.315789  Significance level  = 0.85394
```

ONE-WAY ANALYSIS OF VARIANCE FOR PCBs IN SEDIMENT, BY MONTH

```
                                Analysis of variance
--------------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------------
Between groups             3.5553E0008      2   1.7776E0008     1.252        .3206
Within groups              1.7032E0009     12   1.4193E0008
--------------------------------------------------------------------------------------
Total (corrected)          2.0587E0009     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR PCBs IN SEDIMENT

Sample 1 is for October/November 1987
Sample 2 is for June 1988

```
                               Two-Sample Analysis Results
-----------------------------------------------------------------------------------------
                                          Sample 1        Sample 2        Pooled
Sample Statistics: Number of Obs.         10              5               15
                   Average                13032.2         8265.2          11443.2
                   Variance               2.04779E8       3.4986E7        1.52535E8
                   Std. Deviation         14310.1         5914.9          12350.5
                   Median                 8696.5          11139           10099

Difference between Means = 4767
Conf. Interval For Diff. in Means:        95     Percent
 (Equal Vars.)     Sample 1 - Sample 2    -9850.87 19384.9       13 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2    -6575.05 16109    12.8 D.F.

Ratio of Variances = 5.85317
Conf. Interval for Ratio of Variances:    0      Percent
                  Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0          Computed t statistic = 0.704692
                   vs Alt: NE             Sig. Level = 0.493434
                 at Alpha = 0.05          so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF PCBs IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
------------------------------------------------------------------------------
Kruskal-Wallis analysis of sedpcbs by sedmon
------------------------------------------------------------------------------
Level              Sample Size     Average Rank
------------------------------------------------------------------------------
  1                      5             6.60000
  2                      5             9.20000
  3                      5             8.20000
------------------------------------------------------------------------------
Test statistic = 0.86  Significance level  = 0.650509
```

ONE-WAY ANALYSIS OF VARIANCE FOR PCBs IN MILK, BY MONTH

```
                          Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups             39994.889      2     19997.444     8.378       .0183
Within groups              14322.000      6      2387.000
--------------------------------------------------------------------------------
Total (corrected)          54316.889      8

0 missing value(s) have been excluded.
```

MULTIPLE RANGE ANALYSIS FOR PCBs IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for June 1988

```
                   Multiple range analysis for milkpcbs by milkmon
--------------------------------------------------------------------------------
Method: 95 Percent Scheffe
Level    Count        Average   Homogeneous Groups
--------------------------------------------------------------------------------
2            3       87.33333   *
             3      111.66667   **
1            3      239.33333    *
--------------------------------------------------------------------------------
```

KRUSKAL-WALLIS ANALYSIS OF PCBs IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
---------------------------------------------------------------------------------
Kruskal-Wallis analysis of milkpcbs by milkmon
---------------------------------------------------------------------------------
Level              Sample Size     Average Rank
---------------------------------------------------------------------------------
1                       3              8.00000
                        3              4.00000
2                       3              3.00000
---------------------------------------------------------------------------------
Test statistic = 5.6  Significance level  = 0.0608101
```

ONE-WAY ANALYSIS OF VARIANCE FOR DIOXINS IN SOIL, BY MONTH

```
                              Analysis of variance
------------------------------------------------------------------------------------
Source of variation   Sum of Squares    d.f.    Mean square    F-ratio   Sig. level
------------------------------------------------------------------------------------
Between groups              218.0193       2      109.00966       .387       .6873
Within groups              3380.4188      12      281.70157
------------------------------------------------------------------------------------
Total (corrected)          3598.4381      14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR DIOXINS IN SOIL

Sample 1 is for October/November 1987
Sample 2 is for June 1988

```
                          Two-Sample Analysis Results
--------------------------------------------------------------------------------
                                         Sample 1    Sample 2    Pooled
Sample Statistics: Number of Obs.        10          5           15
                   Average               7.8401      12.4172     9.3658
                   Variance              228.194     368.716     271.431
                   Std. Deviation        15.1061     19.202      16.4752
                   Median                2.035       1.73        2

Difference between Means = -4.5771
Conf. Interval For Diff. in Means:       95     Percent
 (Equal Vars.)     Sample 1 - Sample 2   -24.0769 14.9227      13 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2   -28.1255 18.9713     6.6 D.F.

Ratio of Variances = 0.618888
Conf. Interval for Ratio of Variances:   0      Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0         Computed t statistic = -0.507224
                     vs Alt: NE          Sig. Level = 0.620492
                  at Alpha = 0.05        so do not reject HO.
```

KRUSKAL-WALLIS ANALYSIS OF DIOXINS IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of soiltcdd by soilmon
--------------------------------------------------------------------------------
Level           Sample Size     Average Rank
--------------------------------------------------------------------------------
  1                  5              9.00000
  2                  5              7.40000
  3                  5              7.60000
--------------------------------------------------------------------------------
Test statistic = 0.38  Significance level  = 0.826959
```

ONE-WAY ANALYSIS OF VARIANCE FOR DIOXINS IN SEDIMENT, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups              14.16252      2      7.081260      .121       .8869
Within groups              701.14316     12     58.428597
--------------------------------------------------------------------------------
Total (corrected)          715.30568     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR DIOXINS IN SEDIMENT

Sample 1 is for October/November 1987
Sample 2 is for June 1988

```
                              Two-Sample Analysis Results
-------------------------------------------------------------------------------------------
                                            Sample 1      Sample 2      Pooled
Sample Statistics: Number of Obs.           10            5             15
                   Average                  7.4261        5.562         6.80473
                   Variance                 64.8076       30.1136       54.1325
                   Std. Deviation           8.05032       5.48759       7.35748
                   Median                   4.74          2.02          2.38

Difference between Means = 1.8641
Conf. Interval For Diff. in Means:          95     Percent
 (Equal Vars.)     Sample 1 - Sample 2      -6.8441 10.5723      13 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2      -5.88888 9.61708    11.4 D.F.

Ratio of Variances = 2.1521
Conf. Interval for Ratio of Variances:      0      Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0            Computed t statistic = 0.462572
                      vs Alt: NE            Sig. Level = 0.651318
                    at Alpha = 0.05         so do not reject HO.
```

KRUSKAL-WALLIS ANALYSIS OF DIOXINS IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of tcddsed by sedmon
--------------------------------------------------------------------------------
Level           Sample Size     Average Rank
--------------------------------------------------------------------------------
1                     5             9.40000
                      5             6.40000
2                     5             8.20000
--------------------------------------------------------------------------------
Test statistic = 1.14  Significance level  = 0.565525
```

ONE-WAY ANALYSIS OF VARIANCE FOR
DIOXINS IN MILK, BY MONTH

```
                                  Analysis of variance
--------------------------------------------------------------------------------
Source of variation    Sum of Squares   d.f.   Mean square    F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups                .0537896     2      .0268948      2.110       .2024
Within groups                 .0764807     6      .0127468
--------------------------------------------------------------------------------
Total (corrected)             .1302702     8

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR DIOXINS IN MILK

Sample 1 is for October/November 1987
Sample 2 is for June 1988

```
                              Two-Sample Analysis Results
------------------------------------------------------------------------------------
                                         Sample 1      Sample 2      Pooled
Sample Statistics: Number of Obs.        6             3             9
                   Average               0.265833      0.397         0.309556
                   Variance              0.0125398     0.016581      0.0136944
                   Std. Deviation        0.111981      0.128767      0.117023
                   Median                0.317         0.441         0.327

Difference between Means = -0.131167
Conf. Interval For Diff. in Means:       95    Percent
 (Equal Vars.)     Sample 1 - Sample 2   -0.326891 0.0645575      7 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2   -0.384701 0.122368     3.6 D.F.

Ratio of Variances = 0.756273
Conf. Interval for Ratio of Variances:   0     Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0         Computed t statistic = -1.58514
                     vs Alt: NE          Sig. Level = 0.156954
                  at Alpha = 0.05        so do not reject HO.
```

KRUSKAL-WALLIS ANALYSIS OF DIOXINS IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
--------------------------------------------------------------------------------
Kruskal-Wallis analysis of tcddmilk by milkmon
--------------------------------------------------------------------------------
Level                 Sample Size     Average Rank
--------------------------------------------------------------------------------
  1                        3              5.00000
  2                        3              3.33333
  3                        3              6.66667
--------------------------------------------------------------------------------
Test statistic = 2.22222  Significance level  = 0.329193
```

ONE-WAY ANALYSIS OF VARIANCE FOR OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN SOIL, BY MONTH

```
                              Analysis of variance
--------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square   F-ratio   Sig. level
--------------------------------------------------------------------------------
Between groups               1608392      2     804195.86      .807        .4691
Within groups               11961098     12     996758.17
--------------------------------------------------------------------------------
Total (corrected)           13569490     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN SOIL

Sample 1 is for October/November 1987
Sample 2 is for June 1988

```
                            Two-Sample Analysis Results
-------------------------------------------------------------------------------
                                          Sample 1    Sample 2     Pooled
Sample Statistics: Number of Obs.         10          5            15
                   Average                405.7       1070.8       627.4
                   Variance               473766      1.95777E6    930382
                   Std. Deviation         688.307     1399.2       964.563
                   Median                 134         108          127

Difference between Means = -665.1
Conf. Interval For Diff. in Means:        95    Percent
 (Equal Vars.)     Sample 1 - Sample 2    -1806.74 476.542      13 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2    -2369.32 1039.12     5.0 D.F.

Ratio of Variances = 0.241993
Conf. Interval for Ratio of Variances:    0     Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for H0: Diff = 0          Computed t statistic = -1.25891
                     vs Alt: NE           Sig. Level = 0.230199
                  at Alpha = 0.05         so do not reject H0.
```

KRUSKAL-WALLIS ANALYSIS OF OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN SOIL, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
------------------------------------------------------------------------------
Kruskal-Wallis analysis of ocddsoil by soilmon
------------------------------------------------------------------------------
Level             Sample Size     Average Rank
------------------------------------------------------------------------------
 1                     5             8.80000
 2                     5             6.40000
 3                     5             8.80000
------------------------------------------------------------------------------
Test statistic = 0.96  Significance level  = 0.618783
```

ONE-WAY ANALYSIS OF VARIANCE FOR OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN SEDIMENT, BY MONTH

```
                                 Analysis of variance
--------------------------------------------------------------------------------------
Source of variation   Sum of Squares   d.f.   Mean square    F-ratio    Sig. level
--------------------------------------------------------------------------------------
Between groups               2830.00      2      1415.000       .086        .9179
Within groups              196852.00     12     16404.333
--------------------------------------------------------------------------------------
Total (corrected)          199682.00     14

0 missing value(s) have been excluded.
```

TWO-SAMPLE POOLED t-TEST FOR OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN SEDIMENT

Sample 1 is for October/November 1987
Sample 2 is for June 1988

```
                            Two-Sample Analysis Results
------------------------------------------------------------------------------
                                           Sample 1     Sample 2    Pooled
Sample Statistics: Number of Obs.          10           5           15
                   Average                 194.5        214         201
                   Variance                10370.9      26269       15262.7
                   Std. Deviation          101.838      162.077     123.542
                   Median                  199          249         234

Difference between Means = -19.5
Conf. Interval For Diff. in Means:         95    Percent
 (Equal Vars.)     Sample 1 - Sample 2     -165.723 126.723    13 D.F.
 (Unequal Vars.)   Sample 1 - Sample 2     -216.704 177.704   5.6 D.F.

Ratio of Variances = 0.394798
Conf. Interval for Ratio of Variances:     0     Percent
                   Sample 1 ÷ Sample 2

Hypothesis Test for HO: Diff = 0           Computed t statistic = -0.280177
                       vs Alt: NE          Sig. Level = 0.777755
                    at Alpha = 0.05        so do not reject HO.
```

KRUSKAL-WALLIS ANALYSIS OF OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN SEDIMENT, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
-----------------------------------------------------------------------------------------
Kruskal-Wallis analysis of ocddsed by sedmon
-----------------------------------------------------------------------------------------
Level                Sample Size     Average Rank
-----------------------------------------------------------------------------------------
  1                       5            7.20000
  2                       5            8.60000
  3                       5            8.20000
-----------------------------------------------------------------------------------------
Test statistic = 0.26  Significance level  = 0.878095
```

ONE-WAY ANALYSIS OF VARIANCE FOR OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN MILK, BY MONTH

```
                                 Analysis of variance
--------------------------------------------------------------------------------------
Source of variation  Sum of Squares    d.f.   Mean square    F-ratio     Sig. level
--------------------------------------------------------------------------------------
Between groups              7.8728000     2      3.9364000     13.496        .0060
Within groups               1.7500000     6       .2916667
--------------------------------------------------------------------------------------
Total (corrected)           9.6228000     8

0 missing value(s) have been excluded.
```

KRUSKAL-WALLIS ANALYSIS OF OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for November 1987
Level 3 is for June 1988

```
------------------------------------------------------------------------------
Kruskal-Wallis analysis of ocddmilk by milkmon
------------------------------------------------------------------------------
Level             Sample Size     Average Rank
------------------------------------------------------------------------------
  1                     3             8.00000
  2                     3             4.00000
  3                     3             3.00000
------------------------------------------------------------------------------
Test statistic = 5.6  Significance level  = 0.0608101
```

MULTIPLE RANGE ANALYSIS OF OCTACHLORODIBENZO-p-DIOXIN (OCDD) IN MILK, BY MONTH

Level 1 is for October 1987
Level 2 is for June 1988

```
                    Multiple range analysis for ocddmilk by milkmon
--------------------------------------------------------------------------------
Method: 95 Percent Scheffe
Level     Count        Average   Homogeneous Groups
--------------------------------------------------------------------------------
2             3       .2366667   *
              3       .7166667   *
1             3      2.4166667
--------------------------------------------------------------------------------
```